RELIGIOUS DEVELOPMENT IN AFRICAN AMERICAN ADOLESCENTS: GROWTH PATTERNS THAT PROTECT IN THE CONTEXT OF STRESSFUL LIFE EVENTS

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A dissertation submitted to the faculty at the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Clinical Psychology.

Chapel Hill
2015

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ABSTRACT

Daniel B. Lee: Religious Development in African American Adolescents: Growth Patterns that Protect in the Context of Stressful Life Events
(Under the direction of Enrique W. Neblett)

Religiosity – the degree of adherence to the beliefs, doctrines, and practices of religion – plays a major role in shaping and protecting the well-being of African American (AA) adolescents (Mattis & Mattis, 2011). However, the lack of studies that landscape the religious lives of AA adolescents and take into account developmental changes and the role of gender in religiosity limits our understanding of how religiosity shapes the well-being of AA adolescents. This study examined: 1) the structure and meaning of religiosity; 2) the protective role of subtypes of religiosity in the relation between stressful life events (SLEs) and depressive symptoms over time; and 3) the role of gender in determining trajectories of religiosity and the protective effects of religiosity on depressive symptomatology in a sample of AA adolescents. The study used the National Longitudinal Study of Adolescent Health (Add health), and all study analyses were conducted on 1,595 AA adolescents ages 12 to 18 across three waves of data (i.e., 1994-1995, 1996-1997, & 2001-2002). Study findings identified two types of religiosity - organizational (ORG) and non-organizational (N-ORG) religiosity. Further, although ORG and N-ORG religiosity protected AA adolescents against the effects of SLEs on depressive symptoms, the protective influence of ORG and N-ORG religiosity diminished over time for males. This study advances our understanding of how AA adolescents interface with their religious life and lays the foundation for clinical interventions that center on utilizing particular religious beliefs and practices to aid religious AA adolescents in negotiating stressful life events.

ACKNOWLEDGEMENTS

I would like to express my deepest appreciation to my committee chair, Dr. Enrique W. Neblett, for believing in me, developing my ideas, and showing confidence in my work. This research project would not have been completed without his guidance, encouragement, and patience. I am eternally grateful for him.

I am also grateful to my family, fiancée, and friends for the continual encouragement, prayer, and emotional support during my graduate training. It is a credit to my father, mother, and sister that I have been able to uphold my faith during the darkest hours of graduate school. Further, I am grateful to my fiancée for enduring long conversations with me to provide emotional and spiritual support throughout the dissertating process. To my friends, near and far, I appreciate them for their encouragement, camaraderie, and constant laughter – all of which were essential throughout the dissertation writing process. Lastly, I would like to acknowledge my canine companion, Brady. He has taught me the importance of living life in the moment, jumping when happy, and overcoming fear with love for self and others.

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INTRODUCTION

Religiosity – to believe in the existence of God, to adhere to the tenets of a prescribed system of faith, and to participate in devotional practices – plays a major role in shaping the well-being of African American (AA) adolescents (see Mattis & Watson, 2009). For example, studies have shown that religiously involved AA adolescents are less likely to be anxious (Lee, Neblett, & Jackson, 2015), use alcohol or illicit substances (Morse et al., 2000), engage in antisocial activity (Jagers, 1998; Stevenson, Reed, Bodison, & Bishop, 1997), and externalize anger (Woods & Jager, 2003) in the context of mundane or extraordinary stress. Despite the growing interests in religion and mental health outcomes, only a few studies have investigated the role of religion in mitigating depressive symptoms in AA adolescents (Grant et al., 2000; Greening & Stoppelbein, 2002; Molock, Puri, Matlin, & Barksdale, 2006). This lack of empirical attention is a shortcoming in that recent community-level and large-scale longitudinal studies show that AAs are reporting higher levels of depression than their white counterparts during adolescence and young adulthood due to stressors stemming from race-related, structural disadvantages such as unequal access to health care (Adkins, Wang, & Elder, 2009; Boardman & Alexander, 2011; Garrison et al., 1990; Gore & Aseltine, 2003). As such, there is a dire need for studies to investigate the influence of religiosity on depressive symptoms for AA adolescents after taking into account stressful life events.

In addition to the dearth of studies examining the role of religiosity on depressive symptoms in AA adolescents, several other shortcomings of the existing literature limit our understanding of the relation between religiosity and depressive symptoms. One major limitation

is that prior studies have proceeded without the benefit of a conceptual framework that explicitly defines and landscapes the religious lives of AA adolescents. As a consequence, substantial variations exist in how scholars define and measure religiosity. For instance, more often than not, studies have applied the term religiosity and spirituality interchangeably even though scholars have made distinctions between the two constructs (Mattis, 2000; Zinnbauer et al., 1997). Further, seeing that scholarly discourse about religiosity is plagued with conceptual fuzziness, scholars have primarily utilized a one-item measure of service attendance or have developed their own scales without regard for findings that conceptually distinguish religiosity from spirituality (Mattis & Watson, 2009). There is also a dire need for a conceptual framework that addresses the developmental significance of religiosity in adolescence for AAs. Specifically, adolescence is a developmental period in which individuals begin to develop complex thinking processes such as understanding religious abstractions, metaphors, and symbols (Mattis & Mattis, 2011). Unfortunately, what we know about the religious lives of AA adolescents remains skeletal; that is, scholars need to unpack the ways by which AA adolescents participate in and commit to their faith.

Another limitation of the literature on religiosity in AA adolescents pertains to the disproportionate use of cross-sectional data. Although valuable in understanding associations between religiosity and psychological adjustment outcomes, cross-sectional studies cannot speak to the interplay of changing religiosity experiences and mental health outcomes throughout adolescence in AAs. With the aid of longitudinal data, scholars can effectively investigate the distinct development trajectories of religiosity and better understand how variations in religious development inform mental health outcomes during adolescence. Although no study has examined variations in religious development for AA adolescents, a few studies have noted that

adolescence is a developmental period characterized by changes in religious involvement (Humphrey, Hughes, & Holmes, 2008; Petts, 2009), as well as mental health outcomes such as depression (see Smith-Bynum, Lambert, English, & Ialongo, 2014). Thus, it is essential for future studies to begin examining how developmental patterns of religiosity thwart or exacerbate the course of mental health outcomes.

Third, although prior research indicates greater levels of religiosity in AA females (Carelton, Esparaza, Thaxter, & Grant, 2008; Lincoln & Mamiya, 1990; Petts, 2009; Taylor, Chatters, & Levin, 2004), the bulk of extant research has proceeded under the assumption that religiosity operates similarly in the lives of AA adolescent males and females. Gleaning from the few studies of religiosity reporting gender differences, there is a growing body of evidence to suggest that AA adolescent females are more likely to benefit from the prophylactic effects of religiosity than their male counterparts (Steinman & Zimmerman, 2004). Of note, however, these studies have primarily assessed service attendance as a key variable and are unable to address whether gender variations exist along different dimensions of religiosity (e.g., prayer, religious attitudes). In turn, research must aim to understand: (1) whether gender variations exist in the development of religiosity across adolescence; and (2) whether experiences and expressions of faith assuage symptoms of psychopathologies such as depression differently for AA adolescent males and females over time.

Study Aims

In light of the aforementioned shortcomings, this study entails three aims. First, the study aims to explore and validate the dimension(s) of a 4-item religiosity scale. As scholars have a limited insight into the religious lives of AA adolescents, many of the scholars utilizing multi-item measures have not paid regard to other dimensions, or subscales of religiosity that might be

subsumed in the measure. Second, due to the dearth of research investigating the prophylactic role of religiosity on depressive symptoms, this study will investigates if developmental trajectories in the subtypes of religiosity could protect against the effect of stressful life events on depressive symptoms during adolescence. Third, given the gendered findings that point to greater levels of religiosity in AA females (e.g., Steinman & Zimmerman, 2004), the present study will attend to the role of gender to expand our understanding of changes in religiosity and the effect of religiosity on depressive symptoms. Specifically, the study seeks to examine if the protective influence of each religiosity subtype varies for AA adolescent males and females in the relation between stressful life events and depressive symptoms.

In the subsequent review, I will first attend to a foundational question overlooked in prior studies: *What does religiosity mean for AA adolescents?* Next, literature will be reviewed to evidence and explain the protective role of religiosity in the stress-depression link and gender differences in the developmental shifts and protective role of religiosity. Following the literature review, I will outline the study hypotheses and provide descriptions about the study methodology and indicate the key findings of the study. This dissertation will conclude with a discussion of the study findings and clinical implications.

The Meaning of Religiosity

Defining religiosity is an important launch point for reflecting on how religious life compensates for the effect of stress on depressive symptoms in AA adolescents as many of these studies have proceeded without the benefit of an explicit definition. Specifically, significant variation exists in the way religiosity has been conceived. For instance, the lack of a conceptual framework is well-reflected in the multitude of studies that use the term religiosity and spirituality interchangeably. Although conceptual overlap exists between the two constructs,

scholars have purported significant distinctions between religiousness and spirituality (Boykin & Ellison, 1995; Mattis, 2000; Zinnbauer et al., 1999). For example, in a qualitative study by Mattis (2000), content analysis of written and oral narratives in AA adults suggests that they conceive of religiosity as an "adherence to one's prescribed beliefs and ritual practices associated with the worship of God or a system of Gods" (Mattis, 2000). On the other hand, spirituality is conceived as "the relationship between transcendent forces (e.g., God, spirits, ancestors) and humans that results both in the individual's recognition of the sacredness of all things and in a conscious commitment to live a life of virtue" (Mattis, 2000). Further, quantitative research seems to distinguish religiosity from spirituality in that these studies keenly note a discrepancy in the number of individuals who identify as spiritual and religious (Roof & Greer, 1993). That is, AA adolescents may acknowledge and interact with a transcendent force (e.g., God, ancestral spirits), while not prescribing to a particular system of beliefs and ritual practices. Taken together, literature seems to posit that religiosity broadly refers to how individuals adhere to the tenets of faith and devotional practices.

Although accumulated research has provided a broad definition of religiosity, only a few studies have considered the distinct ways by which AA adolescents adhere to the tenets of faith and practice religious devotion. A few scholars, using qualitative research, have identified a number of ways by which AA adolescents interface with religion (Lincoln & Mamiya, 1990; Mattis, 2000; Mattis & Mattis, 2011). In particular, these studies utilize Levin and colleagues' (1995) three dimensional model of religious involvement as a guiding framework for exploring the religious life of AA adolescents. More specifically, studies of religiosity in AA adolescents have examined religious life across three dimensions - organizational involvement, non-organizational involvement, and subjective religiosity. Although this model of religiosity has

been developed to explore the religious life of AA adults, it also provides a viable beginning point for landscaping the religious lives of AA adolescents.

The first component of religiosity proposed by Levin and colleagues (1995) is *organizational religiosity* which refers to the extent to which individuals hold membership, attend, and interface with religious institutions (e.g., church, mosque). AA adolescents who are organizationally involved in religion may attend religious services, be members of youth groups, participate in religious art forms (e.g., choir, plays), and participate in civic engagement activities (Billingsley, 1999; Lincoln & Mamiya, 1990). Of all the ways that AA adolescents can be involved with their religious institutions, service attendance is perhaps the most commonly studied indicator of organizational religiosity. In particular, empirical studies show that AA adolescents are more likely to attend religious services and be a part of religious youth groups than adolescents from other racial groups from freshmen to senior year of high school (Smith, Denton, Faris, & Regnerus, 2002). However, it is also critical to note that a few studies have found that AAs, on average, decline in their service attendance between adolescence and young adulthood (Petts, 2009). As such, given the developmental shifts in organizational religiosity in AA adolescents, it is necessary that scholars map these changes to better understand the factors that thwart or facilitate changes in organizational religiosity.

In addition to participating in religious activities, Mattis and Watson (2009) alongside a few other scholars, proposed that religious institutions situate AA adolescents in an enduring and supportive network of coreligionists that includes religious leaders (e.g., ministers, youth leaders, mentors), adults (e.g., church mothers, deacons, elders), and peers who share the same faith background. Although the ways in which AA adolescents relate with members of their religious community may vary (e.g., trusting, distant), scholars seem to suggest that organizational

religiosity operates in the lives of AA adolescents through the provision of mentorship, social/emotional support, instrumental assistance, and other benefits (Cook, 2000). Thus, it is imperative that our conception of organizational religiosity in AA adolescents takes into consideration the multi-generational web of relationships.

Non-organizational religious involvement is a form of religiosity that refers to private religious practices that demonstrate devotion to the divine (Levin et al., 1995). Although fewer studies have explored the non-organizational religious life than the organizational religious life of AA adolescents, a few existing studies have examined the prayer life of AA adolescents (Davey, Tubbs, Kissil, & Niño, 2011; Humphrey et al. 2008). Specifically, Humphrey and colleagues (2008) noted that children are more likely to conceive of prayer as ritualistic behaviors such as clasping hands, keeping eyes closed, and making requests for themselves and others. Divergently, older children and adolescents conceive of prayer as a way to cope with stress and adversity, seek forgiveness, give thanks, sustain and remember religious beliefs, and reframe maladaptive thoughts in psychologically adaptive ways (Davey et al., 2011; Mattis & Mattis, 2011).

Outside the limits of prayer, our understanding of non-organizational religious life in AA adolescents is virtually non-existent. A few scholars have purported that AA adolescents watch (e.g., religious movies) or listen to religious media (e.g., religious rap) to participate in private acts of devotion to the divine (Mattis & Mattis, 2011; Park & Baker, 2007). Further, AAs are more likely than members of other racial groups to be exposed to religious imagery and ideas in a secular context. For example, Kanye West, a popular AA rap artist, included references to religion in his song lyrics - such as, “God show me the way because the Devil trying to break me down…The only thing that that I pray is that my feet don't fail me now…” (Kanye West, 2004).

As a result of being exposed to religious ideas and imagery through secular media, AA adolescents may construct and reinforce key religious values such as understanding the meaning and importance of faith and prayer. Lastly, Park and Baker (2007) noted increases in the consumption of religious paraphernalia such as pendants, t-shirts, and bracelets and, in turn, postulated that the consumption of these goods serves two purposes. First, religious paraphernalia allow consumers to publically display their religious identity and commitments and, second, religious paraphernalia motivate consumers to adhere to particular tenets of their faith (e.g., forgiveness, gratitude). As such, although a few scholars postulate a multitude of ways by which AA adolescent can be non-organizationally involved in religion, no theory, at present, can explicitly address the salient components of non-organizational religious life in AA adolescents.

The third type of religiosity in Levin and colleagues' (1995) three-dimensional model of religiosity is *subjective religiosity*. Specifically, subjective religiosity also taps into the private religious life of AA adolescents and examines the extent to which individuals define themselves as religious and perceive the degree of importance religion has on their lives (Levin et al., 1995). For instance, Taylor, Mattis, and Chatters (1999) presented four ways by which AAs subjectively relate to their faith – that is, AAs indicated that (1) religious support and comfort was vital for dealing with life problems, (2) religious beliefs were important in their daily lives, (3) feeling close to the divine was important, and (4) considering themselves to be religious was important. More specifically, studies revealed that AA adolescents acknowledged the important role of religiosity in their relational and academic life (Brody et al., 1994; Butler-Barnes, Williams, & Chavous, 2012; Cook, 2000). With respect to the relational life of AA adolescents, scholars purported that religiosity promotes warm and supportive parent-child relationships (Brody et al.,

1994), sibling relationships (McHale, Kim, Whiteman, & Crouter, 2004), peer relationships (Cook, 2000), and, in general, plays an important role in the relational functioning of AA adolescents. Further, AA adolescents have perceived the importance of religion in their academic lives (Butler-Barnes et al., 2012; Loury, 2004). For example, AA children and adolescents pray about school-related goals (e.g., success on exams) which indicates their belief that God has the capacity to influence their academic performance. In summary, although research exploring subjective religiosity is practically non-existent for AA adolescents, a scant body of scholarship suggests that AA adolescents perceive the importance of religiosity in many aspects of their lives.

This broad landscape of religiosity in the lives of AA adolescents leads naturally to reflections on the question of measurement. Although there are psychometrically validated measures of religiosity in AA adult populations (Good & Willoughby, 2006; Levin et al., 1995; Lukwago, Kreuter, Bucholtz, Holt & Clark, 2001), at the present time, the existing religiosity scales have not been developed for AA adolescents. Despite this glaring limitation in the measurement of religiosity in AA adolescents, Jones (2007) is the first and only scholar to have piloted a religiosity/spirituality scale in AA adolescents by: (1) reviewing and adopting pre-existing items from religiosity scales developed in adults; (2) dialoguing with members of the clergy and ministers; and (3) researching the language and doctrines of several religious groups that are common in African American culture (i.e., Christian denominations [e.g., Methodist, Baptist], Seventh-Day Adventists, Jehovah's Witnesses, and Muslims). As a result, this religiosity/spirituality scale is the first of its kind to be guided by Africentric theories and developmental perspectives to assess the adolescent's religious beliefs, church attendance, prayer, and spiritual coping methods (Jones, 2007). With exception to Jones' (2007) religiosity

and spirituality scale, nearly all studies of religiosity continue to utilize a single item of service attendance, scales validated in older adults, or scales that pay no regard to the conceptual distinctions between religiosity and spirituality or the multiple dimensions of religiosity (e.g., organizational, non-organizational). In summary, studies of religiosity are in dire need of a guiding framework that specifies the unique and salient components of religious life which, in turn, will facilitate the development of a theory-driven measure of religiosity for AA adolescents. Although the construction of a conceptual framework is beyond the scope of the study, I have provided a broad view of religiosity in AA adolescents to offer a rationale for exploring aspects of religious life for these adolescents in a preexisting measure of religiosity.

Stress and Depressive Symptomatology

In addition to understanding the salient aspects of religiosity, it is important to understand the functional significance of religiosity as it relates to the psychological well-being of AA adolescents. Owing to the legacy of racism and institutional exclusion, chronic and acute stressors are pervasive in the lives of AA adolescents (Adkins et al., 2009; Boardman & Alexander, 2011; Gore & Aseltine, 2003; Jones, 1997; Williams & Collins, 1995). That is, AA adolescents are disproportionately more likely than adolescents from other racial groups to reside and develop in contexts marked by poverty, illness, violence, crime, drug use, poorly maintained buildings, inadequate academic resources/support, higher levels of social disorganization, and physical and mental illnesses (see Acevedo-Garcia, Osypuk, Mcardles, & Williams, 2008). Moreover, even after controlling for socio-economic status (SES), researchers have noted that AA adolescents are more likely to report stressful life events than adolescents from other social groups (Aneshensel & Sucoff, 1996; Haynie, Silver, & Teadsdale, 2006). In understanding the racial disparity in stress prevalence, several scholars have posited that the interlocking adversity

of low SES, racial/ethnic discrimination and neighborhood disadvantage exerts a strong negative effect on the mental health of AA adolescents (Vega & Rumbaut 1991; Ross & Jang, 2000; Williams & Collins 1995).

In addition to the pervasiveness of stressful life events, experiencing stressful life events predicts higher levels of psychopathological symptoms and, in particular, depressive symptomatology in AA adolescents (Brody, Kogan, & Chen, 2012; Eamon, 2002; Hammack, 2003; Miller & Taylor, 2012). There are two guiding frameworks that provide an appropriate lens through which to examine the relationship between stressful life events and depressive symptoms – the Stress and Coping framework (Lazarus & Folkman, 1984) and the Integrative Model for the Study of the Development of Minority Youth (García Coll et al., 1996). The stress and coping framework posits that if the relationship between the individual and the environment is appraised by the person as taxing, it could endanger his or her well-being (Lazarus & Folkman, 1984). As follows, ongoing exposure to stressors such as neighborhood violence can exhaust the individual's coping resources. As coping resources diminish, Clark, Anderson, Clark, and Williams (1999) suggest that individuals respond to stress emotionally (e.g., hopelessness, angry) and physiologically (e.g., depressed immune system functioning). Consequently, individuals' psychological and physiological responses to stress may influence the genesis of psychopathology such as depression (Clark et al., 1999).

The integrative model proposed by García Coll and colleagues (1996) posits theoretically derived pathways that link social position variables (e.g., race, gender) to developmental competencies. The pathways included in the model are social position variables [e.g., race], racial discrimination, segregation, promoting/inhibiting environments [e.g., neighborhoods and schools], adaptive cultures [e.g., traditions and cultural legacies], child characteristics [e.g., age

and temperament], family [e.g., racial socialization], and developmental competencies [e.g., emotion, cognitive, and coping with racism]. The proposed model delineates the role of environmental/social factors and individual characteristics that link stressful life experiences to developmental competencies. In particular, developmental competencies related to emotion and coping are requisites for the maintenance of psychological well-being (García Coll et al., 1996).

In line with these frameworks, studies have shown positive associations between stress and depressive symptomatology in AA adolescents (Carleton et al., 2008; Fitzpatrick, Piko, Wright, & LaGory, 2005; Gaylord-Harden & Cunningham, 2009; Grant et al., 2000; Prelow, Weaver, & Swenson, 2006). For example, in a study by Fitzpatrick and colleagues (2005), AA adolescents were more likely to reside in neighborhoods that had a higher probability of sexual victimization, parental assault, gang activity, and exposure to violence. In turn, these neighborhood characteristics were positively associated with depressive symptomatology in AA adolescents. In a similar vein, Natsuaki and colleagues (2007) examined this stress-depression link using longitudinal data and reported that although depression gradually increases for AA adolescents, the risk of depression was especially elevated for AA adolescents who reported higher levels of stressful life events (e.g., parental divorce, trouble at school) and neighborhood disorder (e.g., presence of danger, social interaction). Lastly, Boardman and Alexander (2011) classified several stress trajectories (i.e., minimal, peak at 15, peak at 17, chronic) for white and AA adolescents and found that AA adolescents were more likely to be in all trajectories of stress except for the minimal stress trajectory. Furthermore, a larger proportion of AA adolescents reported higher levels of depressive symptoms in all of the stress trajectories in relation to their white counterparts. In summary, AA adolescents are no strangers to stressful life events and may be more vulnerable to depressive symptoms than their white counterparts.

The Protective Role of Religion

Despite the relation between stress and depressive symptoms, a considerable proportion of AA adolescents still report low levels of depressive symptoms (e.g., Molock et al., 2006). In understanding these heterogeneous outcomes in relation to stress, scholars have used the risk and resiliency (RR) framework as a theoretical backdrop for examining the interplay of risk factors and resilience factors (Brown, 2008; Grant et al., 2000; Zimmerman & Arunkumar, 1994). The RR framework specifically conceives of risk factors as factors that predict maladaptive outcomes in ordinary circumstances, whereas resilience factors counteract the influence of risk factors. Moreover, the RR framework has conceptualized resilience in two ways. First, this framework posits that protective factors predict adaptive outcomes in the presence of risk factors, while the second type of resiliency factor, compensatory factors, predict adaptive outcomes for those exposed or unexposed to the risk factor, equally (Zimmerman & Arunkumar, 1994). In the present study, the risk factor being examined is stress as it generally predicts poorer psychological well-being for AA adolescents. Moreover, religiosity has been conceived as a compensatory and a protective factor as the religious life of AA adolescents neutralizes or counteracts the effect of stress on depressive symptoms.

Scholarship examining religiosity as a resilience factor in the context of stress for AA adolescents has proceeded without the benefit of a guiding framework that can effectively elucidate how religiosity may offset depressive symptoms in AA adolescents burdened by mundane and extraordinary stress. A few scholars, however, have theorized a number of tenable pathways by which religiosity exerts its salutary effects (Cook, 2000; Lincoln & Mamiya, 1990; Mattis & Watson, 2009; Mattis & Mattis, 2011). More specifically, these scholars have focused on the unique, functional role of organizational and non-organizational religiosity in

counterbalancing or directly mitigating the effects of stress on depressive symptoms. On the subject of organizational religiosity, much attention has centered on the role of the religious institution in enhancing emotional and instrumental support, as well as self-esteem in AA adolescents. As mentioned earlier, religious institutions situate AA adolescents within a multigenerational, familistic network of religious authority members, adults, and peers by which they receive emotional validation when burdened by stress (Cook, 2000; Mattis & Mattis, 2011). As the lives of many AA adult and adolescent congregants are wrought by stressors that stem from institutional exclusion and inequality (e.g., neighborhood violence), AA faith communities play a vital role in offering genuine empathy and emotional validation to AA adolescents negotiating these stressors. In addition to emotional support, AA faith communities are known to provide instrumental assistance to their children and adolescents (e.g., academic support programs, mentorship) to offset the effect of stress on depressive symptoms in these adolescent (Billingsley, 1991). As such, it comes as no surprise that AA religious institutions hold the capacity to counterbalance the depressive symptoms that arise from the ensemble of stressors with which AAs are all too familiar.

In addition to extending emotional and instrumental support, AA religious institutions have historically and presently staved off depression in AA adolescents by routinely building up their self-esteem and self-efficacy (Cook, 2000; Lincoln & Mamiya, 1990; Mattis & Watson, 2009). That is, AA adolescents are given concrete opportunities for involvement in activities such as musical training and performance, volunteer work, and public reading of scripture that, in turn, allow these adolescents to showcase their competencies and personal achievements before a warm and enthusiastic congregation. Additionally, religious leaders in AA religious institutions celebrate achievements of AA adolescents by publically announcing academic

achievements (e.g., making honor roll, graduation) and other personal achievements (e.g., new job) during service. Thus, even though AA adolescents are commonly ignored, invisible, and are belittled in other settings (e.g., school), the warm and encouraging support offered to these adolescents by their faith community may elevate self-esteem and correspondingly, lower symptoms of depression (Cook, 2000; Mattis & Watson, 2009).

Although little is known about the non-organizational forms of religiosity, a few scholars have suggested that this aspect of faith life may offset the effects of stress on depressive symptoms through two mechanisms: (1) optimism and (2) emotional regulation. In terms of optimism, Mattis and colleagues (2004) aptly noted that private religious acts like prayer, reading scripture, or wearing witness wear can draw attention to the omnipotent, omnipresent, and omnibenevolent characteristics of the divine. For example, scholars have also noted that religious adolescents conceive of prayer as reframing stressful situations in that the divine can change outcomes (Humphrey et al., 2008). Furthermore, these positive attributions are in line with fundamental theological doctrine that depicts God or Allah as creative, improvisational figures who can "make a way out of no way" (Nelson, 1997). Accordingly, these enduring beliefs and values assure their believers that the divine can and will provide guidance and protection needed to triumph over stress and adversity which, in turn, can cultivate positive expectations about future outcomes (Mattis, Fontenot, Hatcher-Kay, & Grayman, 2004). Thus, as non-organizational aspects of religiosity assure religious AA adolescents that they can be optimistic in challenging times, this increase in optimism, in turn, is likely to lower depressive symptoms (Scheier & Carver, 1992).

With regard to emotional regulation, studies have shown that people who pray and meditate develop emotionally-regulatory behaviors that are likely to reduce the likelihood of

depressive symptoms (Cahn & Polich, 2006; McNamara, 2002). Specifically, many individuals with Major Depressive Disorder (MDD) frequently ruminate on negative emotions and are often unsuccessful in reappraising situations that produce negative emotions (Joormann & Gotlib, 2010). Despite this cognitive trend, studies have noted that prayer, meditation, and exposure to religious texts (e.g., Bible, Torah) and symbols (e.g., the cross, the crescent moon) can down-regulate negative emotions (e.g., anger, sadness) and can facilitate the reappraisal of negative situations – that is, people who initially felt anxiety may find a way to feel grateful after prayer (Koole, McCullough, Kuhl, & Roelofsma, 2010). For religious AA adolescents, a few scholars have speculated that prayer may be an avenue for activating faith-based moral reasoning to set in motion emotional regulation behaviors such as the emotional reappraisal of situations that mitigates negative mood (Cook, 2000; Stevenson et al., 1997; Woods & Jagers, 2003). Thus, although the studies of non-organizational religiosity in modulating depressive symptoms remain sparse, the present studies appear to suggest that prayer may encourage AA adolescents to exercise control over their emotions and behaviors in the context of stress.

Scholarship elucidating the link between subjective religiosity (i.e., self-evaluation as religious) and depressive symptoms in AA adolescents is nearly non-existent. Despite the lack of research on subjective religiosity, Taylor and colleagues (1999) noted that religious identity was central to the lives of AA. That is, high school seniors, emerging adults, and adults overwhelmingly acknowledged that religious beliefs were important to their subjective well-being (e.g., mental health, academic) and that they considered themselves to be religious and close to God (Taylor, Mattis, & Chatters, 1999). Mattis and Watson (2009) are a few scholars that provide tenable explanations for how subjective religiosity might influence mental health outcomes such as depressive symptoms. In particular, they note that the types of conceptual

construction on how the divine operates in the lives of AA adolescents are likely to alleviate depressive symptoms or further exacerbate stress. For example, perceiving God as an unwavering friend and ally may proffer hope and purpose in life for AA adolescents which, in turn, allows them to believe that they can bear the burdens of stress. In contrast, religious AA adolescents who view the divine as punitive, jealous, irritable, and lacking in love may perceive of life's challenges as hopeless and, in turn, experience even greater levels of despair due to their conceptions about the divine (Mattis & Watson, 2009).

In line with conceptual work that informs the link between religiosity and depressive symptoms, a few empirical studies have shown that religiosity can protect AA adolescents against the effect of stress on depressive symptoms. For example, in a study by Molock and colleagues (2006), AA adolescents who reported self-directed coping methods reported greater levels of depression, hopelessness, and an increased number of suicide attempts, whereas collaborative religious coping – that is, the adolescent relied on themselves and God – reported fewer suicide attempts and lower levels of depressive symptomatology (Molock et al., 2006). Along the same lines, Carleton and colleagues (2008) reported that availability of religious coping resources (e.g., spiritual and social support) mitigates the effect of major stressful events, daily hassles, controllable events, and uncontrollable events on depressive symptoms. Lastly, a few scholars have utilized focus group interviews to understand how AA adolescents interface with religion to cope with depressive symptoms (Molock et al., 2007). Specifically, findings from the focus group interviews suggested that religious AA adolescents spoke to friends who were spiritually-minded, engaged in intercessory prayer, and reflected on their relationship with God to cope with depression during challenging times. In relation to AA adults, the interviewed adolescents were unique in that they expressed feeling uneasy with seeking help from formal

religious leaders (e.g., pastor, clergy) to cope with stressful life events. Rather, AA adolescents preferred religious helpers that were less formal (e.g., mentor, youth leader) and "empathic listeners, non-judgmental, able to maintain confidentiality, and young adults" (Molock et al., 2007).

In summary, scholarship examining the link between religiosity and depressive symptoms is presently limited and heavily borrowed from studies of religiosity in AA adults. In addition to the scarcity of studies examining this link, much of the research on religiosity and depressive symptomatology has utilized cross-sectional data and, as a consequence, cannot address how distinct development trajectories of religious involvement protect AAs against the effect of stress on depressive symptoms across adolescence. As studies report changes in stress, religiosity, and depressive symptoms across adolescence (Adkins, et al., 2009; Boardman & Alexander, 201; Petts, 2009), religious scholars must advance the field by addressing how mental health is informed by developmental trajectories of religious development in the context of stressful life events. That is, in light of findings that have observed inter-individual heterogeneity in religiosity in AA adolescents (Molock & Barksdale, 2013), religiosity scholars must identify the multiple ways through which AA adolescents develop within each subtype of religiosity. Lastly, most of the aforementioned studies have not examined how the subtypes of religiosity could protect AA adolescents against the effect of stressful life events on depressive symptoms. Rather, a large proportion of studies that examine the function role of religiosity, as it relates to mental health in AA adolescents, have conceived of religiosity as a unidimensional construct (e.g., Lee et al., 2014). Thus, although a few studies have substantiated the protective role of religiosity during stressful times, the research, to date, cannot speak to how developmental patterns across the subtypes of religiosity inform depressive symptomatology in AA adolescents.

Gender Differences in Religiosity

The complexity with which we understand changes in religiosity and the effect of religiosity on depressive symptoms is expanded as we consider the role of gender. In this regard, a proportion of studies indicates differences in the level of religiosity between AA females and males (Carleton et al., 2008; Donahue & Benson, 1995; Grant et al., 2000; Jang & Johnson, 2005). Although gendered variations are often reported in the lives of AA adults or Caucasian adolescents, only a few studies have explored these gender discrepancies in AA adolescents. For example, Mattis (1997) reported that AA females in late adolescence were more likely to report higher levels of service attendance and religious motivation than their male counterparts. Further, Petts (2009) noted that gender differences in religiosity (i.e., church attendance) emerged during mid- to late adolescence suggesting that adolescence is a crucial developmental period to consider when studying the intersection of gender and religiosity. Thus, when studies of gender variations in religious AA adults are taken together with the study by Petts (2009), it is conceptually reasonable to postulate that adolescence is a pivotal developmental period in understanding the onset and maintenance of gender variations in the religious lives of AA adolescents.

Unfortunately, there is no guiding framework that can cogently explain why gender variations exist in religious AAs. Theorists interested in studying gender differences in religiosity primarily have focused on the compatibility of gender-role socialization messages, as well as religious socialization messages, with religious beliefs and values. With regard to the first explanation, a few scholars have noted that certain gender-role socialization messages were compatible or at odds with religious values and beliefs. That is, this explanation argues that certain gender-role socialization messages for AA females are compatible with particular aspects

of their religious values and beliefs which, in turn, promotes higher levels of religiosity (Mattis & Jagers, 2001; Thompson, 1991). For example, AA females attribute femininity with traditional family roles (e.g., caregivers, racial socialization agents), particular modes of conduct (e.g., less aggression), and personality traits (e.g., cooperation, nurturance) compatible with certain religious proscriptions. In support of this theory, Thompson (1991) found that scoring higher on a "feminine outlook" scale was a significant predictor of religious devotion and participation. Contrary to females, gender-role socialization messages for males and, in particular, AA males, attribute masculinity to suppressing emotions, while instructing them to be self-reliant and cope independently with stress and adversity (Hammond, 2012). For these reasons, socialization messages ascribed to AA males run in opposition to aspects of religious beliefs that prescribe members to be emotionally connected to their religious community (e.g., ministers, authority figures) and trusting in, and relying on the divine for support (Pargament et al., 1990).

In addition to gender-role socialization experiences, young men and women tend to emulate religious beliefs and practices of their same-gender parent. For example, Ahmed (1992) found that young Muslim women were more likely to wear a hijab if their mothers wore a hijab. Given than AA adolescents are more likely to grow-up in single-parent, mother-headed households (Harknett & McLanahan, 2004), it is conceptually reasonable that the transmission of beliefs and values pertained to religion may be more compatible with gender roles of AA adolescent females than males. Further, as many AA churches predominantly consist of female congregants (elders, deaconesses; Taylor et al., 2004), it is plausible that religious socialization messages arising from religious community members are more congruous with the gender role norms ascribed to AA adolescent females than males. Thus, it may be that the religious

socializing agents in the lives of AA adolescents are primarily AA females than males which, in turn, may contribute to gender variations in religiosity for these adolescents.

Accordingly, there is a dire need for research to examine these gendered trends in the religious lives of AA adolescents. Aside from service attendance, the extant literature is unable to settle the question of gender differences as they relate to other aspects of religiosity such as private forms of religiosity. As such, these studies must address important questions about the specific ways by which AA adolescent males and females experience and express aspects of their faith. Lastly, there is a need for focused efforts to examine these gender variations using longitudinal data. As seen in the study by Petts (2009), longitudinal data allow researchers to delineate developmental trends in adolescence and, in turn, explicate the onset and perpetuation of gender differences in religiosity. For example, given that the overwhelming evidence suggests greater religiosity in AA females than their male counterparts, AA males may fall into developmental patterns of religiosity characterized by rapid decline over time, and may endorse lower scores than AA females on all indicators of religiosity throughout adolescence.

Gender Variations in the Protective Role of Religiosity

Although the assertion that AA females are more religious than their male counterparts is readily documented in the literature (see Taylor, Chatters, & Levin, 2004), much of the research investigating the protective role of religiosity offers an inadequate treatment of gender. That is, many studies have concluded that the prophylactic effects of religiosity in the lives of AA adolescents are universal and invariant between males and females. Although the gendered nature of religious involvement certainly suggests that religiosity might differentially impact the mental health of AA adolescent females and males, most studies of gender variation in religiosity have focused on organizational involvement (e.g., church service) than the myriad ways that

these adolescents might interface with faith. Unfortunately, the present literature cannot effectively explain how AA adolescent males and females experience and, in turn, benefit from their faith. Due to the dearth of studies examining the role of gender in the religion-depression link, the remainder of this literature review will excavate findings to construct an explanation for how gender and religiosity might interact to counter the effect of stressful life events on depressive symptoms in AA adolescents.

Extant studies of religiosity and depression have indicated that religion reduces the likelihood of depressive symptoms in AA adolescents (Ball, Armistead, & Austin, 2003; Davis & Stevenson, 2006; Donahue & Benson, 1995). However, in many of these studies, scholars have not attended to the foundational question: How might gender influence the protective role of religiosity for symptoms of depression in AA adolescents? A few studies have attended to this question and, by and large, noted differences in methods of coping with life's challenges and depressive symptoms (Grant et al., 2000; Molock et al., 2006). For example, in a study by Grant and colleagues (2000), the investigators found that religiosity (e.g., service attendance, youth group participation, embracing religious beliefs) had a potent effect in reducing depression in AA adolescent females, but not their male counterparts. Specifically, the authors of this study noted that AA females were more likely to use coping strategies (e.g., seeking social support) that were in line with religious beliefs, whereas males were more likely to utilize coping strategies (e.g., avoidant coping) that run orthogonal to religious beliefs.

In a similar vein, Molock and colleagues (2006) also found that religious participation was more likely to reduce depressive symptoms in AA adolescent females in relation to their male counterparts even after controlling for stress. In understanding the interplay of gender and religiosity, these authors examined differences in religious coping behaviors between AA

adolescent males and females. Specifically, the authors noted that AA adolescent males were more likely to utilize self-directed religious coping which is characterized as participating in problem solving with minimal involvement with a higher power, whereas AA adolescent females were more likely to utilize collaborative religious coping which is characterized as a cooperative relationship with God in solving problems (Molock et al., 2006; Pargament Smith, Koenig, & Perez, 1988; Wong-McDonald & Gorsuch, 2000). In sum, gender variations in the protective role of religiosity may be partially explained by how AA adolescents employ coping strategies with symptoms of depression.

In lieu of this explanation, extant scholarship is ill-equipped to adequately explain gender variations in the protective role of religiosity on the link between stress and depressive symptoms in AA adolescents. In addition to the scarcity of conceptual and empirical research, several noteworthy limitations restrict our understanding of how gender influences the relation between religiosity and depressive symptoms in AA adolescents after controlling for stress. First, as mentioned earlier, most studies examining gender differences in religiosity have primarily focused on formal religious activities (e.g., service attendance) and have often reified the age-old conclusion that AA males are irreligious compared to their female counterparts. Consequentially, certain non-organizational forms or religiosity may equally mitigate the effect of stress on depressive symptoms for AA adolescent males and females. Second, all studies investigating gender differences in the protective role of religion have utilized cross-sectional data. Although cross-sectional data allows scholars to examine associations between gender, religion, and depression, there is a dire need for studies to investigate: (1) whether developmental patterns in subtypes of religious involvement vary for AA adolescent males and females (e.g., accelerated decline in organizational religiosity for AA adolescent males in relation to females) and (2)

whether the protection offered by each subtype of religiosity varies for AA adolescent males and females after taking into account the effect of stress.

Study Hypotheses

In light of the conceptual fuzziness of what constitutes religiosity in AA adolescents, the unexplored ways by which religiosity develops and protects the mental health of AA adolescents burdened by stress, and the potential for gender differences in the development and protective role of religiosity in the stress-depressive symptom link, the study entails three aims. First, the present study seeks to explore and validate different domains of religiosity embedded within pre-existing items of religiosity. Second, the present study will (1) explore the distinct developmental patterns in each dimension of religiosity; and (2) examine if certain developmental patterns shield AA adolescents against the effect of stressful life events on depressive symptoms. Third, the present study will explore gender variations in: (a) the multiple developmental patterns within each dimension of religiosity; and (b) the extent to which religiosity protects AA adolescents against the effect of stress on depressive symptoms. In light of the study aims, the hypotheses are as follows:

*Hypothesis 1***.** It is expected that the pre-existing items of religiosity will encompass multiple dimensions of religiosity (e.g., organizational, non-organizational religiosity) across the four waves of data. Briefly, this hypothesis is due to prior theoretical and empirical work that identified three principal components of religiosity such as (1) organizational religiosity, (2) non-organizational religiosity, and (3) subjective religiosity (see Taylor et al., 2004). To date, no study has examined the constructs embedded within the pre-existing items of religiosity.

*Hypothesis 2a***.** It is expected that multiple developmental trajectories will be identified within each subtype of religiosity. Consistent with longitudinal studies of religious development

(e.g., Pearce & Denton, 2011), it is believed that most of the identified pathways will vary in how rapidly religiosity commitment and participation declines across adolescence. However, in light of studies reporting the salience of religiosity in the cultural and familial context of AA adolescents (e.g., Mattis & Mattis, 2011), it is believed that there is a potential for a developmental trajectory that reflects a gradual increase in the commitment and participation of religious activities and beliefs.

*Hypothesis 2b***.** It is expected that members of consistently higher or increasing trajectories of religiosity will endorse lower levels of depressive symptoms over time, than members of decreasing or consistently lower trajectories after taking into account the effect of stress. Consistent with cross-sectional studies of religiosity and depressive symptoms, it is believed that religiosity will compensate for the effects of stress on depressive symptoms for AA adolescents (e.g., Molock et al., 2006). For example, it is expected that gradual increases in organizational religiosity during adolescence will predict lower levels of depressive symptoms, whereas declining organizational religiosity will predict higher depressive symptoms after taking stressful life events into account.

*Hypothesis 3a***.** It is expected that there will be gender variations in the identified trajectories of development within each dimension of religiosity. As previously mentioned, although religiosity scores generally decline across adolescence, it is believed that the compatibility of gender-role proscriptions and religious beliefs in AAs lead to steeper declines in religiosity for males than females (Mattis & Jagers, 2001; Thompson, 1991). Further, Huston and Alvarez (1990) noted that gender-role socialization messages become pronounced during adolescence suggesting that adolescence is a pivotal developmental period in which to examine gender variations in religiosity. Gleaning from studies that conceive of and investigate the

gendered nature of religiosity, it is hypothesized that AA adolescent males will be more likely to classify into the developmental trajectories of religiosity that are marked by consistently lower and more rapid declines over time (Carleton et al., 2008; Thompson, 1991).

*Hypothesis 3b***.** Lastly, gender variations in the protective role of religiosity is contingent on the type of religiosity examined. For example, it is expected that the protective influence of the religiosity subtypes on the stress-depression link will be more pronounced for AA adolescent females than males over time. Studies of religiosity overwhelmingly report that AA adolescent females are more organizationally and non-organizationally religious than their male counterparts during mid to late adolescence (Taylor et al., 2004). In turn, AA adolescent females may benefit more from religious commitments and activities during mid to late adolescence, while equally benefitting with their male counterparts during early adolescence. That is, even if AA adolescent males and females classify into trajectories that reflect a high level of organizational religiosity over time, the protective influence of being in that trajectory will endure for females, whereas it is expected to diminish for males.

METHOD

Data Source

This study extracted data from three waves of the public-use National Longitudinal Study of Adolescent Health (Add Health) - Waves 1 (1994-1995), Wave 2 (1995-1996), and Wave 3 (2001-2002). Of note, the public-use data includes one-half of the core sample, chosen at random (n = 6,504). The Add Health dataset is the largest nationally representative longitudinal study of adolescents in the United States with an over-sampling of racial/ethnic minorities. The baseline sample (Wave 1), consisted of 80 high schools and 52 feeder middle schools selected with probabilities to size. Further, participants in Wave 1 were in grades ranging from 7 to 12 and completed an in-home interview that consisted of questions relating to symptoms of psychopathology, religiosity, stressful life experiences, socio-demographic characteristics, health, education, and health-related outcomes. In addition, parents of the participants in Wave 1 were asked to complete a Parent Questionnaire to report on their education, household income, and other socio-demographic correlates. Wave 2 data were collected approximately a year later and consisted of 4,834 participants (of the 6,504). By the time of Wave 3 data collection, the interviewed participants (n = 4,882) were all between the ages of 18 to 28 years. Additional details of the ADD health's sampling design, response rates, and data quality are well documented (http://www.cpc.unc.edu/projects/addhealth/design).

Participants

The analytic sample for this study consisted of 1,595 native-born, non-Hispanic African American adolescents. Socio-demographic characteristics of the sample suggests that 47.6% of

the participants are males, that the average household income is $37,160 (*SD* = 4,706), and that the average mother reported going to, but not completing college (*M* = 5.70, *SD* = 2.15). See Table 1 for the sample characteristics of participants for each wave of data.

Measures

Demographics. The demographic variables examined in the study included age, gender, religious affiliation, and socio-economic status (see Table 1). Of note, consistent with Hauser's (1994) conception of socio-economic status, the adolescent's household income and mother's educational attainment was ascertained to assess socio-economic status. Further, the participant's gender was assessed in the Adolescent In-Home interview at Wave 1. The educational attainment of the participant's mother and the participant's household income were obtained in the Parent In-Home Questionnaire collected in Wave 1.

Stressful Life Events. The present study measured cumulative exposure to 27 stressful life events (SLEs) by Turner, Wheaton, and Lloyd (1995) to assess the occurrence of stressful events that were acute, limited duration (occurring within 12 months), and generally known predictors of poorer health outcomes (Compas, 1987). As presented in Appendix 1, the measured stressors included: parental/peer conflict (Wright, Beaver, Delisi, & Vaughn, 2008), academic stress (Johnson & Morris, 2008), violent victimization (Kaufman, 2009), health-related stress, neighborhood disorder/dissatisfaction, financial stress, and legal convictions. In addition, prior empirical work has demonstrated the concurrent and predictive validity of the scale (Ge et al., 1994).

Religious Affiliation. Religious affiliation was assessed by having the participant select from a list of 28 religious groups and denominational affiliations. Although the list consists of 28 religious groups and denominational affiliations, several denominational affiliations (e.g.,

Lutherans, United Churches) consisted of less than .01% of the sample. As such, small denominational affiliations that were branches of protestant Christianity were combined and subsumed under Protestantism. On the other hand, although African Methodist Episcopal, Methodist, Pentecostal and Baptists - also denominations affiliated with Protestantism - were not combined as each of these denominations consisted of a large enough sample size to conduct statistical tests ($n > 70$). Lastly, although certain religions such as Islam consisted of only 13 subjects (.02% of the sample), these religions could not be combined as its theology, values, and practices diverged markedly from all other religious groups (see Table 2).

Depressive Symptomatology. As presented in Appendix 2, depressive symptoms were measured using a 9-item scale derived from the 20-item Center for Epidemiological Studies of Depression Scale (CES-D; Radloff, 1977). The CES-D measures the symptoms of depression on a Likert-type scale ranging from 0 (*never or rarely*) to 4 (*most or all of the time*). Sample items include: "You felt that people disliked you, during the past seven days" and "You were depressed, during the past seven days." Further, previous factor analysis has also validated the 9-item subscale in AA adolescent respondents indicating that the subscale used in the Add health data adequately captures the construct *depressive symptoms* in the sample of AA adolescents (Meadows et al., 2006). Lastly, the subscale in the data set demonstrated satisfactory to good reliability estimates in all three waves of data (α = .81, .80, and .80, respectively).

Religiosity. As presented in Appendix 3 religiosity was measured using a 4-item scale that assessed different variations of religious participation such as service attendance, prayer, youth activities and perceived importance. Although the documentation on item development is limited, the developers of the religiosity scale consulted Stark and Bainbridge's (1985) conception on devotional practices (e.g., prayer) and Smith's (1996) conception of religiosity

identity to generate items for this scale. Although the items were scaled on a Likert-type scale, the frequency of service attendance and youth activities were scaled as 0 (*never*) and 3 (*at least once a day*), whereas prayer was scaled as 0 (*never)* to 4 (*at least once a day*). Further, the perceived importance of religious was scaled as 0 (*not important*) to 3 (*very important*). The scale demonstrated good reliability in the study sample in all three waves of data ($\alpha = .87$, $\alpha = .84$, $\alpha = .86$).

Data Analytic Approach

All statistical analyses were conducted using Mplus 7.2 (Muthén & Muthén, 2012). Add Health is a longitudinal dataset organized by wave of assessment with diverse age groups represented in each wave. However, to examine depressive symptoms and religiosity across age, a cohort-sequential design was applied and the data were restructured across the three waves of Add Health data to provide age-based measurements of religiosity and depressive symptoms. The methods involved in applying a cohort-sequential design are well-established and outlined in methodological literature (Bollen & Curran, 2006; Mehta & West, 2000; Muthén & Muthén, 2000).

The fundamental problem of the cohort-sequential design is data "missing by design" (Duncan, Duncan, & Hops, 1996) which, according to Rubin's typology of missing data, is considered missing completely at random (Little & Rubin, 1989). As a result, the full information maximum likelihood (FIML) will be used to generate likelihood functions for only the data that is available for each case. As such, FIML is often preferred over other analytic approaches for handling missing data since model parameters and standard errors are estimated for each case without dropping or imputing values for missing cases (Bollen & Curran, 2006). Further, FIML is considered to be superior to Multiple Imputations (MI), a popular analytic

approach for handling missing data for four reasons. First, FIML always produces the same model parameters, whereas Multiple Imputation produces different results every time it is used. Second, MI requires users to make decisions even as these decisions involve uncertainty (e.g., how many datasets to produce, how many iterations, what prior distribution to use). Third, under MI, there is always conflict between the imputation model and analysis model, whereas there is no potential conflict in FIML because missing values are estimated under one model. Fourth, and lastly, FIML is more asymptotically efficient than MI in that sampling variance is only minimized in MI after producing and analyzing a large number of datasets (Arbuckle, Marcoulides, & Schumacker, 1996).

After handling missing data, preliminary analyses included descriptive statistics (e.g., mean, standard deviation) of the constructs examined in the present study.

Aim 1. In order to explore and validate the dimension(s) of religiosity in the 4-item scale of religiosity used in Add health, a confirmatory factor analysis (CFA) was conducted to validate the dimensions of a religiosity scale. Given the limited number of items represented in the religiosity scale, it was apparent that a one or two factor structure could be the only identified solutions. As such, prior to conducting the CFA, the indicators of religiosity were examined to determine if two subtypes of religiosity existed in the scale. The model fit indices examined were the Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980), Comparative Fit Index (CFI; Bentler, 1990), and Tucker-Lewis Index (TLI; Tucker & Lewis, 1973). Furthermore, a factor solution was considered interpretable when every item loaded well (>.60) on its respective factor.

Further, to establish measurement invariance across the observed age groups (12 to 18 years) and across religious and denominational affiliations, a series of measurement invariance

tests were conducted. In particular, the tests examined configural factorial invariance (i.e., having the same structure of free and fixed parameters while imposing no equality constraints on the factor loadings and intercepts across the three waves of data), weak factorial invariance (i.e., factor loadings constrained to be equal across the three waves of data), and strong factorial invariance (i.e., factor loadings and intercepts of observed indicators constrained to equality across the three waves of data) across the observed age groups. After testing for measurement invariance across age groups, test of configural, weak, and strong factorial invariance were assessed across different religious and denominational affiliations.

Aim 2a. As a precursor to examining the second aim of the study (i.e., the protective function of religiosity), distinct growth trajectories of religiosity were examined using latent growth mixture models (LGMM; Muthén & Shedden, 1999). That is, LGMMs were conducted to identify heterogeneous classes of growth trajectories for each subtype of religiosity. To obtain a finite number of latent class trajectories in each subtype of religiosity, the following model fit indices were examined: Akaike information criterion (AIC; Akaike, 1974), bayesian information criterion (BIC; Schwarz, 1978), sample adjusted bayesian information criterion (Tofighi & Enders, 2007). As the number of classes increased, a decrement in AIC, BIC, and aBIC indicated an improvement in model fit. In addition to examining model fit indicators, Vuong Lo Mendell Rubin likelihood ratio tests (VLMR LRT; Lo, Mendell, & Rubin, 2001) and bootstrap likelihood Ratio tests (B-LRT; Feng & McCulloch, 1996) were conducted to assess if there was a significant improvement in model fit between the n versus $n - 1$ trajectory models. Of note, the content and distinctiveness of the latent trajectory classes were considered as well in model selection. After selecting the number of latent trajectory classes, posterior probabilities were used to classify participants into latent trajectory classes in each subtype of religiosity.

Aim 2b. To examine the second aim of the study, multiple group latent growth models (MG-LGMs; see Bollen & Curran, 2006) of depressive symptoms were examined for each subtype of religiosity. Specifically, the groups in the MG-LGMs represented the participant's classification into an identified latent class trajectory. In addition, as a starting point to the MG-LGMs, measurement invariance tests were conducted on the 9-item subscale of CES-D to confirm that the CES-D subscale measured depressive symptoms along the same metric in each of the observed age groups (see Table 7).

Following the measurement invariance tests for the CES-D scale, MG-LGMs examined the unconditional trajectories of depressive symptoms across the multiple groups. After estimating the unconditional trajectories of depressive symptoms in each group, the model implied mean for the intercept and slope factor of depressive symptoms were conditioned on stressful life events. In turn, the MG-LGMs of depressive symptoms were examined across the participant's class membership into a latent class trajectory of a religiosity subtype after taking into account the effect of stressful life events.

Of note, although scholars traditionally examine the interaction between stress and religiosity to investigate the protective role of religiosity, MG-LGMs were applied in the present study for two reasons. First, consistent with the GMM framework, class membership is a grouping distinction - that is, subsets of the sample that follow a distinct trajectory. Thus, the treatment of class membership as a continuous or ordinal indicator of religiosity deviates from the GMM approach. Second, MG-LGMs provide analytic advantages over general linear models (e.g., hierarchical regression model) in that MG-LGMs estimate inter- and intra-individual variability over time within the class memberships (Bollen & Curran, 2006). Thus, to examine

the protective influence of ORG and N-ORG religiosity, the unique effect of SLEs on depressive symptom were examined across the identified trajectories of religiosity.

Aim 3a. As an initial step in examining the third study aim, LGMMs for each subtype of religiosity (from Aim 2a) were conditioned on gender in two ways: (1) the intercept and slope factors for each of the latent trajectory classes were conditioned on gender (within-class effects), and (2) gender was included as a predictor of class membership (between-class effects) into a latent trajectory. With respect to examining the within-class effects of gender, the intercept and slope factors for each latent trajectory class were regressed on gender. For examining the between-class effects of gender, logistic regression was applied to estimate the odds for being in one latent trajectory class over another for females in relation to males. In sum, these analyses can help us understand if gender influences, or predicts membership into the distinct growth patterns in each religiosity subtype.

Aim 3b. To assess if the protective influence of religiosity varies by gender, MG-LGMs of depressive symptoms were conducted (from Aim 2b) with groups representing the intersection of membership to a latent trajectory class and gender. That is, this analysis allowed us to test whether the onset and changes in depressive symptoms, conditioned on stressful life events, varied as a combination of latent trajectory class and gender. For example, membership into a latent trajectory class reflecting a high level of religiosity (one of the subtypes) over time may offer longer-lasting protection to AA adolescent females than males across adolescence as AA adolescent males are less likely to be religiously involved than their female counterparts from mid to late adolescence (Taylor et al., 2004). Thus, the MG-LGMs were used to better understand gender variations as they relate to the protective influence of each subtype of religiosity in the relation between stressful life events and depressive symptoms over time.

RESULTS

Preliminary Analyses

Table 3 presents the means and standard deviations of depressive symptoms, stressful life events, and indicators of religiosity as a function of age (i.e., 12 to 18 years). The observed mean of depressive symptoms (DEP) gradually increased until the age of 16 (0.54 to 0.7) and flattened out at age 17 (0.68) and 18 (0.69). For stressful life events (SLEs), an increase from age 12 to 16 (5.02 to 5.70) was observed followed by a decrease at the age of 17 and 18 (5.34 to 3.55).

With regards to the religiosity indicators, the observed mean for service attendance decreased from age 12 to 13 (2.47 to 2.37), flattened out from age 13 to 15 (2.37 to 2.39), and decreased rapidly from 15 to 18 years of age (2.39 to 1.86). For youth activities, a cyclical trend in the mean was observed from ages 12 to 15 (1.71 to 1.60 to 1.73 to 1.61), followed by a substantial decline from age 16 to 18 (1.47 to 0.98). The observed means for the two other indicators of religiosity, prayer and religious importance, changed minimally between age 12 to 17 but declined slightly from age 17 to 18 (3.34 to 3.15, 2.61 to 2.34, respectively).

Examination of Organizational and Non-Organizational Religiosity

To address the first aim of the study, components of religiosity were catalogued in AA adolescents using confirmatory factor analysis (CFA). Specifically, CFA examined whether dimensions of organizational (ORG) and non-organizational (N-ORG) religiosity existed in a 4-item scale. It was hypothesized that service attendance and youth activities would reflect ORG religiosity, whereas prayer and religious importance would reflect N-ORG religiosity. As seen in Table 4, the two-factor solution fit the observed data well, $\chi^2(1) = 1.77$, $p = .19$, RMSEA = .02,

TFI = .99, and CFI = .98. Further, the factor loadings of service attendance and youth activities on the ORG religiosity factor were high (.78 and .68, respectively), while the factor loadings of prayer and religious importance on the N-ORG religiosity factor were also high (.61 and .65, respectively).

In addition to conducting a CFA on the pooled data, measurement factorial invariance tests were conducted to evaluate whether ORG and N-ORG religiosity were assessed on the same metric across time (see Table 4). The least restrictive type of invariance – configural invariance (the same pattern of fixed and freed factor loadings) – was assessed by freeing factor loadings for all items. The configural invariance model fit the observed data well, $\chi^2(7) = 6.01$, $p = .54$, RMSEA = .01, TFI = .99, and CFI = .99. The next most restrictive type of invariance – weak factorial invariance (factor loadings constrained to be equal across groups) – was assessed by restricting factor loadings to be equal across all the age groups. The weak factorial invariance model fit the observed data well, $\chi^2(19) = 24.85$, $p = .17$, RMSEA = .03, TFI = .99, and CFI = .99. Following the weak factorial invariance test, the strong factorial invariance test added the additional restriction that the indicator intercepts were equal across ages. When strong factorial invariance was imposed, the model fit deteriorated but fit the observed data well, $\chi^2(31) = 55.02$, $p = .05$, RMSEA = .04, TFI = .98, and CFI = .99. As such, the measurement invariance tests suggest that ORG and N-ORG religiosity are measured in the same metric across the observed time points.

Because religious practices might differ across religions and denominations, measurement invariance tests were conducted to evaluate whether ORG and N-ORG religiosity were equivalently assessed across different religions and denominations (see Table 4). Models of configural [$\chi^2(9) = 20.25$, $p = .02$, RMSEA = .04, TFI = .99, and CFI = .98], weak factorial

invariance [$\chi^2(25) = 43.99$, $p = .01$, RMSEA = .04, TFI = .99, and CFI = .98], and strong factorial invariance [$\chi2(41) = 75.66$, p = .00, RMSEA = .05, TFI = .98, and CFI = .98] fit the observed data well. As such, the tests of measurement invariance demonstrates that ORG and N-ORG religiosity are measured on the same metric for individuals regardless of their religion or denominational affiliation.

Distinct Growth Patterns in Organizational and Non-Organizational Religiosity

To address the second aim of the study regarding the protective nature of religioisty, latent Growth Mixture Models (LGMMs) were conducted as an initial step to identify distinct growth patterns in ORG and N-ORG religiosity. The model fit indices of the LGMM models under comparison are shown in Table 5 and 6. For ORG religiosity (see Table 5), the model with a single class had the largest AIC (6476.58), BIC (6540.14), and aBIC (6502.02) values, indicating the worst model fit. The two-class model had a lower AIC (6344.34), BIC (6423.79), and aBIC (6376.14) indicating an improvement in model fit in relation to the single class model. Further, VLMR LRT and B-LRT were statistically significant (both $p = .00$) suggesting a significant improvement in model fit from the single class model to the two-class model. Model fit statistics for the three-class model (AIC = 6350.04, BIC = 6445.39, aBIC = 6388.21) and the VLMR LRT and B-LRT were not statistically significant ($p = .62$, $p = .83$, respectively) indicating that the model fit in the three-class model was not a significant improvement from the two-class model. As such, two distinct growth trajectories of ORG religiosity were identified.

The two latent class trajectories of ORG religiosity are represented in Figure 1. As can be seen, the first class, comprised of 970 (65.72%) AA adolescents, was characterized by a higher level of ORG religiosity at the age of 12 (M intercept = 2.69, $p = .00$), that decreased over time (M slope = -0.11, $p = .00$). The second class, which consisted of 506 (34.28%) AA adolescents,

was characterized by a lower level of ORG religiosity at the age of 12 (*M* intercept = 1.15, *p* = .00), that also decreased over time (*M* slope = -0.09, *p* = .03). Of note, the first class reported higher levels of religiosity across development than the second class and, in turn, the first class is referred to as *high ORG religiosity*, whereas the second class is referred to as *low ORG religiosity*.

LGMMs were also conducted to examine distinct growth patterns in N-ORG religiosity (see Table 6). The model fit indices of the LGMM models under comparison are shown in Table 6. The single class model of N-ORG had the largest AIC (4956.67), BIC (5020.23), and aBIC (4982.11), indicating that this model fit the worst. A reduction in the AIC (4551.08), BIC (4630.54), and aBIC (4582.89) was observed in the two-class model, indicating an improvement in model fit. Further, VLMR LRT and B-LRT were statistically significant (*p* = .00, *p* = .00, respectively) suggesting that the two-class model demonstrated a significant improvement in model fit compared to the single class model. A three-class model further demonstrated a decrease in AIC (4509.37), BIC (4614.72), and aBIC (4547.54) with a statistically significant VLMR LRT (*p* = .03) and B-LRT (*p* = .00). Although the model fit significantly improved after including a third class, the third class was a variation of one of the two classes. In addition, only 21 participants (i.e., 0.01% of the sample) classified into the third class which would be likely to introduce analytical challenges (e.g., inflation of Type II error rates) when conducting analyses of class membership. As such, the two class model was retained for N-ORG religiosity.

The latent class trajectories of N-ORG are represented in Figure 2. The first class, comprising of 208 (14.09%) AA adolescents, was characterized by a lower level of N-ORG religiosity at the age of 12 (*M* intercept = 2.13, *p* = .00), that decreased over time (*M* slope = -0.12, *p* = .00). The second class, which consisted of 1,268 (85.91%) AA adolescents, was

characterized by a higher level of N-ORG religiosity at the age of 12 (*M* intercept = 3.23, *p* = .00), that decreased minimally over time (*M* slope = -0.02, *p* = .01). In light of the distinct growth patterns represented in N-ORG religiosity, members in the first class were referred to as *low N-ORG religiosity* and members in the second class were referred to as *high N-ORG religiosity.*

Organizational and Non-Organizational Religiosity as Protective Factors

Following the identification of the religiosity growth trajectories, multiple group LGMs were conducted to examine the protective influence of ORG and N-ORG religiosity in the relation between SLEs and depressive symptoms. As a first step, an unconditioned LGM of depressive symptoms was conducted to examine the growth of depressive symptoms in the pooled data. The unconditioned LGM fit the observed data well, $\chi^2(10) = 15.05$, $p = .13$, RMSEA = .02, TFI = .99, and CFI = .99, and indicated that the depressive symptoms gradually increased over time. Further, the longitudinal factorial invariance for depressive symptoms is summarized in Table 7.

Prior to examining the protective influence of ORG and N-ORG religiosity in the context of SLEs, the unconditional growth of depressive symptoms in the latent classes of ORG and N-ORG religiosity were estimated (see Table 8). Of note, this is a crucial step as subsequent analyses will condition the intercepts and slopes of depressive symptoms on stressful life events. In addition, the groups in the multiple group LGMs represent class membership into the low or high level of ORG or N-ORG religiosity. For ORG religiosity, the growth of depressive symptoms was examined across the two identified classes – low and high ORG religiosity. The multiple group LGM fit the data well, $\chi^2(20) = 37.68$, $p = .01$, RMSEA = .04, TFI = .97, and CFI = .96, and indicated that members in the low ORG religiosity class endorsed higher depressive

symptoms at the age of 12 (*M* Intercept = 0.63, *p* = .00) than members in the high ORG religiosity condition (*M* Intercept = 0.59, *p* = .00). In terms of the growth in depressive symptoms, members in the high ORG religiosity class endorsed a steeper increase in depressive symptoms over time (*M* Slope = 0.02, *p* = .01) than members in the low ORG religiosity class (*M* slope = 0.01, *p* =. 07).

Multiple group LGMs of depressive symptoms were also conducted for N-ORG religiosity across the two identified classes – low and high N-ORG religiosity. The multiple group LGM observed data well, $\chi^2(20) = 13.95$, *p* = .84, RMSEA = .01, TFI = .99, and CFI = .99. Like ORG religiosity, findings suggests that depressive symptoms are higher for members in the low (*M* Intercept = 0.67, *p* = .00) than high N-ORG religiosity class (*M* Intercept = 0.61, *p* = .00) at the age of 12. However, the mean of the slope factors in low (*M* Slope = 0.00, *p* = .91 and high N-ORG religiosity (*M* Slope = 0.01, *p* = .33) were not significantly different from zero. It is noteworthy to mention that members in the low religiosity classes endorsed higher levels of depressive symptoms across development in relation to members in the high religiosity classes.

As a last step to addressing the second aim, multiple growth LGMs were conducted across the latent classes of ORG and N-ORG religiosity by conditioning the growth of depressive symptoms on SLEs (see Table 9). For ORG religiosity, the conditioned growth of depressive symptoms on SLEs was examined across the low and high ORG religiosity latent classes. The multiple group LGM fit the observed data well, $\chi^2(30) = 51.60$, *p* = .01, RMSEA = .03, TFI = .97, and CFI = .97. For members in the low ORG religiosity class, SLEs had a positive effect on depressive symptoms at the age of 12 (*b* = 0.09, *p* = .00), but had no effect on the slope of depressive symptoms. Similarly, for members in the high ORG religiosity class, SLEs had a positive effect on depressive symptoms at age 12 (*b* = 0.06, *p* = .00), but had no effect on the

slope of depressive symptoms. As indicated by Figure 3, the findings indicate that the low ORG religiosity class endorsed higher levels of depressive symptoms than their counterpart class over the observed time points. However, as a result of the significant, positive slope factor in the high ORG religiosity class (*M* Slope = .01), the gap in depressive symptoms gradually declined over time.

For N-ORG religiosity, growth in depressive symptoms were conditioned on SLEs and examined across low and high N-ORG religiosity classes. The multiple group LGM model fit the observed data well, $\chi^2(30) = 42.20$, $p = .04$, RMSEA = .03, TFI = .96, and CFI = .96. For members in the low N-ORG religiosity class, SLEs had a positive effect on depressive symptoms at the age of 12 ($b = 0.11$, $p = .00$) and a negative effect on the slope of depressive symptoms ($b = -0.02$, $p = .05$). For members in the high N-ORG religiosity class, SLEs had a positive effect on depressive symptoms at the age of 12 ($b = 0.07$, $p = .00$) and no effect on the slope of depressive symptoms ($b = 0.00$, $p = .68$). As delineated by Figure 4, members in the high N-ORG religiosity class endorsed lower depressive symptoms than their counterparts until age 18. However, SLEs had a negative effect on the growth of depressive symptoms in the low N-ORG religiosity class. In turn, this gradually closed the gap in depressive symptoms between the low and high N-ORG religiosity class over time.

ORG and N-ORG Religiosity as Protective Factors by Gender

As an initial step in addressing the third aim of the study, and in light of prior studies that indicate gendered findings in religious involvement for adolescent males and females (e.g., Pearce & Denton, 2011), the LGMMs (from Aim 2) were conditioned on gender to examine if: (1) gender has an effect on the intercept and slope factors for each class (within-class effects), and (2) gender can predict class membership (between-class effects). In sum, with respect to

within-class effects, gender did not have a significant effect on the intercept and slope factors in the latent class trajectories for ORG and N-ORG religiosity. In terms of between-class effects, multinomial logistic regressions for class membership were conducted to examine if the participant's gender would predict class membership. For ORG religiosity, the odds of being in the high ORG religiosity class versus the low ORG religiosity class were 1.64 times greater for AA females than males. Similarly, the odds of being in the high N-ORG religiosity class versus the low N-ORG religiosity class was 2.03 times greater for AA adolescent females than males. In sum, gender predicted class membership for both ORG and N-ORG religiosity, but did not influence the intercept and slope factors within each of the latent class trajectories.

Next, multiple group LGMs for ORG and N-ORG religiosity were conducted, with groups representing the intersection of class membership and gender (e.g., high ORG religiosity & male, high ORG religiosity & female). As before, prior to examining the growth of depressive symptoms conditioned on SLEs across multiple groups, the unconditioned trajectories of depressive symptom were examined in each group.

The multiple group LGM for ORG religiosity demonstrated satisfactory fit to the observed data, $\chi^2(40) = 77.53$, $p = .00$, RMSEA = .05, TFI = .94 and CFI = .92. As indicated by Table 10, for males, members in the high ORG religiosity class endorsed less depressive symptoms at age 12 (*M* Intercept = 0.49, $p = .00$), but gradually endorsed more depressive symptoms over time (*M* Slope = 0.02, $p = .03$). On the other hand, males in the low ORG religiosity class endorsed a higher level of depressive symptoms at the age of 12 (*M* Intercept = 0.63, $p = .00$), but remained stable in their endorsement of depressive symptoms over time. Females in the low (*M* Intercept = 0.68, $p = .00$) and high ORG religiosity classes (*M* Intercept = 0.67, $p = .00$) marginally differed in their endorsement of depressive symptoms at the age of 12.

However, females in the low ORG religiosity class endorsed higher levels of depressive symptoms over time (*M* Slope = 0.02, *p* = .05), whereas females in the high ORG religiosity class remained stable in their endorsement. Lastly, females endorsed higher levels of depressive symptoms than males regardless of class membership.

In terms of N-ORG religiosity, the multiple group LGM model fit the data well, $\chi^2(40) = 59.40$, *p* = .03, RMSEA = .04, TFI = .95 and CFI = .95. As indicated by Table 10, males in the low N-ORG class endorsed higher levels of depressive symptoms (*M* Intercept = 0.64, *p* = .00) than males in the high N-ORG class (*M* Intercept = 0.53, *p* = .00) at the age of 12. However, males in the high N-ORG religiosity class endorsed an increase in depressive symptoms over time (*M* Slope = 0.02, *p* = .04), whereas males in the low religiosity condition remained stable in their endorsement of depressive symptoms. Much like their male counterparts, females in the high N-ORG religiosity class also endorsed lower depressive symptoms (*M* Intercept = 0.68, *p* = .00) than females in the low N-ORG religiosity class (*M* Intercept = 0.82, *p* = .00) at the age of 12. However, females in the low and high N-ORG religiosity class remained stable in their endorsement of depressive symptoms over time. Lastly, females endorsed higher levels of depressive symptoms than males.

As the final step to addressing the third aim, multiple growth LGMs were conducted by conditioning the growth of depressive symptoms on SLEs across groups with intersecting gender and class membership. For ORG religiosity, the multiple group LGM that conditioned the growth of depressive symptoms on SLEs across latent classes and gender demonstrated satisfactory fit to the observed data, $\chi^2(60) = 110.56$, *p* = .00, RMSEA = .05, TFI = .94 and CFI = .93. As indicated by Table 11, for males, SLEs had a larger positive effect on depressive symptoms for members in the low ORG religiosity class (*b* = .09, *p* = .00) than members of the

high ORG religiosity class (b = .06, p = .00) at age 12. Further, SLEs only had a significant, negative effect on the slope of depressive symptoms for males in the low ORG religiosity class (b = -0.01, p = .02). Although marginal in magnitude, a similar trend was observed for females in that SLEs had a greater positive effect on depressive symptoms in in the low (b = .09, p = .00) than high ORG religiosity class (b = .08, p =.00) at age of 12. In addition, SLEs did not influence the slope of depressive symptoms for females in the low and high ORG religiosity classes. In sum, depressive symptoms at age 12 and the change in depressive symptoms were conditioned on the effect of SLEs.

As delineated in Figure 5, after conditioning the trajectories of depressive symptoms on SLEs in each of the examined groups, females in the high ORG religiosity class consistently endorsed lower levels of depressive symptoms than the low ORG religiosity class over the observed time points. However, it is important to mention that, for males, members in the high ORG religiosity class endorsed lower depressive symptoms than the low ORG religiosity class until the age of 17. At the age of 18, endorsement of depressive symptoms was estimated to be higher for males in the high ORG religiosity class than the low ORG religiosity class.

For N-ORG religiosity, the multiple group LGM that conditioned the growth of depressive symptoms on SLEs across latent classes and gender fit the observed data well, $\chi^2(60)$ = 92.93, p = .01, RMSEA = .04, TFI = .95 and CFI = .95. As indicated by Table 11, for males, SLEs had a larger positive effect on depressive symptoms for members in the low N-ORG religiosity class (b = .07, p = .00) than members of the high N-ORG religiosity class (b = .06, p = .00) at the age of 12. Further, SLEs had a significant, negative effect on the slope of depressive symptoms for males in the low N-ORG religiosity class (b = -0.01, p = .04), but not for males in the high N-ORG religiosity class. For females, SLEs had a greater positive effect on depressive

symptom in in the low (b = .19, p = .00) than high ORG religiosity class (b = .08, p =.00). In addition, SLEs had a significant, negative effect on the slope of depressive symptoms for females in the low N-ORG religiosity class (b = -0.03, p = .03), but not for females in high N-ORG religiosity class.

Lastly, as delineated by Figure 6, after conditioning the trajectories of depressive symptoms on SLEs in each of the examined groups, females in the high N-ORG religiosity class consistently endorsed lower levels of depressive symptoms over the observed time points in relation to the low N-ORG religiosity class. However, it is important to note that, for males, members in the high N-ORG religiosity class endorsed lower depressive symptoms than members in the low N-ORG religiosity class until the age of 16. At the age of 17, endorsement of depressive symptoms was estimated to be higher for males in the high N-ORG religiosity class than the low N-ORG religiosity class.

DISCUSSION

The present study entailed three aims and broadly sought to describe different subtypes of religiosity and evaluate the protective influence of religiosity in AA adolescent males and females over time. The first aim was to validate two subtypes of religiosity (i.e., ORG, N-ORG religiosity), while also examining if the subtypes were similarly measured across the observed ages and across different religions and denominations. Second, the study investigated if membership in distinct developmental trajectories of ORG or N-ORG religiosity would offer protection against the effect of SLEs on depressive symptoms over time. Third, gender variations relating to the protective influence of ORG and N-ORG were examined.

Three key findings emerged from the data. First, two subtypes of religiosity were identified – organizational and non-organizational religiosity – and the identified subtypes were similarly measured across developmental and different religious and denomination affiliations. Second, high and low trajectory classes of ORG and N-ORG religiosity were identified and members of the high ORG and high N-ORG religiosity trajectory classes endorsed lower levels of depressive symptoms over time after taking into account the effect of SLEs. Third, AA adolescent females benefitted from the protective influence of classifying into the high ORG and high N-ORG religiosity class across adolescence, whereas the protective influence of the high ORG and high N-ORG religiosity class diminished for AA adolescent males over time.

Aim 1: Explore Different Subtypes of Religiosity

With regard to the first aim of the study, results from the CFA validated two subtypes of religiosity in a 4-item scale - ORG and N-ORG religiosity. After reviewing the indicators of

religiosity prior to the CFA, service attendance and youth activities appeared to be ways by which AA adolescents could interface with religious institutions and, as a result, were classified as indicators that reflect ORG religiosity. Further, prayer and religious importance appeared to be more personal ways in which AA adolescents interface with their faith and, in turn, were classified as indicators that reflect N-ORG religiosity (Levin et al., 1995; Lincoln & Mamiya, 1990). It is important to note that Levin and colleagues (1995) conceived of religious importance as an indicator of subjective religiosity. However, due to the limited number of religiosity items, N-ORG religiosity was loosely defined in the current study to reflect all private forms of religiosity including religious importance. Taken together, the identified religiosity subtypes were consistent with studies positing a multidimensional conceptualization of religiosity. Consistent with studies that suggest the centrality of service attendance, prayer, religious importance, and youth activities in the lives of many AA adolescents, this study found that ORG and N-ORG religiosity are relevant to the religious lives of AA adolescents (Lincoln & Mimiya, 1990; Mattis & Mattis, 2011). Indeed scholars have suggested that, owing to the legacy of institutional exclusion and racism in the United States, AA religious institutions have played a vital role in providing religious support (e.g., service attendance), as well as instrumental support through youth activities (e.g., choir, Sunday School; Mattis & Watson, 2009). Further, although N-ORG religiosity is less studied, prayer and the perceived importance of religion have been noted as a common religious expression and belief in the lives of AA adolescents (Mattis & Mattis, 2011). Thus, involvement in ORG and N-ORG religiosity are not atypical religious expressions for AA adolescents.

Aim 2: Protective Influence of ORG and N-ORG Religiosity in the Context of SLEs

As an initial first step, growth mixture models identified a high (66% of the sample) and low (34% of the sample) latent trajectory class for ORG religiosity. Although ORG religiosity declined at similar rates in both classes, individuals in the first trajectory class endorsed a higher level of ORG religiosity over time. As such, although the rate of decline was similar in both latent trajectory classes of ORG religiosity, members in the high ORG religiosity class endorsed higher levels of religiosity than low ORG religiosity.

Consistent with prior studies of religious development in AA youth, the majority of AA adolescents in the study were highly involved in ORG religiosity (Lincoln & Mamiya, 1992; Mattis & Mattis, 2011; Taylor et al., 2004). In understanding the salience of ORG religiosity in AA adolescents, a few scholars have noted that AA religious institutions represent more than a spiritual home and offer programs that provide outreach to children and adolescents (Billingsley, 1992; Mattis & Watson, 2009). Further, Cook (2000) noted that religious institutions in urban settings provide AA adolescents a safe context in which they can turn to for social, emotional, and instrumental support. Thus, the outreach, mentorship, support, and a close-knit relationship with other peers and adults can enhance our understanding of why more than half of AA adolescents fell in the high ORG religiosity class.

Although myriad explanations exist for why ORG religiosity is salient in the lives of AA adolescents, fewer studies focus on the proportion of AA adolescents who are less involved in ORG religiosity or who become less involved in ORG religiosity over time. Despite the lack of research, some scholars have argued that negotiating and reconciling multiple identities, such as religious and sexual identity can lower involvement in ORG religiosity (Mattis & Watson, 2009; Rostosky, Danner, & Riggle, 2007). That is, values pertinent in one identity may run orthogonal

to values pertinent in one's religious identity which, in turn, can lead to a low level of ORG religious involvement. For example, adolescents who identify as lesbian, gay, bisexual, or transgender (LGBT) are less likely to perceive support from religious institutions as these institutions have largely taken a hostile and punitive stance towards sexual minority groups (Mattis & Watson, 2009; Miller, 2007). As a result, AA adolescents who identify as LGBT or other social identities may be less likely to interface with religious institutions if there is a misfit between their values and religious tradition.

In addition to the interplay of social identities, Uecker and colleagues (2007) asserted that adolescents and emerging adults initiate and engage in behaviors that might deviate from religious traditions and teachings – such as, non-marital sexual behavior, alcohol and drug use, and higher education. In turn, these scholars posit that the behaviors and lifestyle choices that run out of step with religious traditions and teachings can ultimately lead to the diminishment of involvement in ORG religiosity (Uecker et al., 2007). In line with this notion, upticks in the early initiation and maintenance of alcohol and drug use (Wallace, Brown, Bachman, & Laveist, 2003), pre-marital sex (Upchurch, Levy-Storms, Sucoff, & Aneshensel, 1998), and criminal behaviors (Richards, Miller, O'Donnell, Wasserman, & Colder, 2004) may lead to a decline in ORG religiosity.

Growth mixture models also identified two latent class trajectories for N-ORG religiosity: (1) participants endorsed a moderate level of N-ORG religiosity at the age of 12, followed by a gradual decline to low levels of N-ORG religiosity over time (14% of the sample), and (2) participants who endorsed a high level of N-ORG religiosity at the age of 12, followed by a slight decline over time (86% of the sample).

In understanding the distinct growth patterns for N-ORG religiosity, a few studies have indicated the important role of prayer in AA adolescents (Davey et al., 2011; Humphrey et al., 2008; Molock et al., 2007). Since early childhood, many AA youths are socialized by their parents to pray and make requests on behalf of themselves or others (Humphrey et al., 2008). Additionally, with respect to the perceived importance of religion, Mattis and Mattis (2011) noted that many AA families and communities socialize their adolescents to understand all aspects of life (e.g., birth, death) using the core tenets of faith. Thus, as many AA adolescents are socialized at an early age to pray and understand life using explanations steeped in religious traditions and values, it comes as no surprise that over 80% of the study sample were classified in the high N-ORG religiosity class.

Contrary to the high N-ORG religiosity class, a small minority of AA adolescents reported a moderate level of N-ORG religiosity at age 12 and decreased gradually into low N-ORG religiosity over time. Research by Pearce and Denton (2011) suggests that the gradual decline in prayer and perceived importance of religiosity is not atypical during adolescence. In understanding this decline in religiosity, scholars have noted that adolescents identify effective, non-religious methods of coping (e.g., video games), have emerging questions about science (e.g., theories of evolution), and begin to question religious moral expectations (e.g., pre-marital sex; Mattis & Mattis, 2011). These explanations, in combination, may provide a starting point for understanding the decline of prayer in adolescents. Further, the moderate level of religiosity at age 12 may be best explained by the religious climate in the adolescent's family. That is, early adolescents are more likely to echo the religious practices and beliefs of their parent(s) or caregiver(s) than taking their own initiative (Pearce & Denton, 2011; Mattis & Mattis, 2011).

Following the identification of distinct growth patterns in ORG and N-ORG religiosity, this study examined whether the high ORG and N-ORG religiosity classes shielded AA adolescents against the effect of SLEs on depressive symptoms. With regards to ORG religiosity, members in the high ORG religiosity class endorsed lower depressive symptoms across the observed time points than members in the low ORG religiosity class. Although depressive symptoms were consistently lower in the high ORG religiosity class, the difference between the two classes gradually diminished due to the accelerated growth of depressive symptoms in the high ORG religiosity class.

Several explanations exist for understanding the protective role of ORG religiosity in the lives of its adolescent congregants (Billingsley, 1999; Cook, 2000; Mattis & Mattis, 2011; Mattis & Watson, 2009). Cross-sectional studies have purported that religious institutions in AA communities provide an array of tangible support to adolescent congregants - such as, opportunities for developing leadership skills, educational support (e.g., assistance in applying for college), musical training, and financial stewardship classes - to counter the impact of SLEs (Cook, 2000; Lincoln & Mamiya, 1990; Taylor et al., 2004). Other scholars have purported that AA religious institutions situate adolescent members in a multi-generational, familistic network of adults and peers by which they receive social and emotional support in challenging situations (Mattis & Mattis, 2011). Taken together, these studies show that ORG religiosity affords instrumental, social, and emotional support for AA adolescents contending with SLEs.

It should be noted that trajectories of depressive symptoms, conditioned on SLEs, gradually diminished over time and eventually converged at the age of 18 for members in the low and high ORG religiosity classes. To understand this finding, it is important to acknowledge that service attendance and youth activities may provide a limited range of the ORG religious life

of older AA adolescents (Mattis & Watson, 2009). Although qualitative research indicates that ORG religious involvement includes service attendance and various youth activities (e.g., choir), older AA adolescents may also participate in programs that prepare them for navigating their broader culture context as adults – such as, balancing professional and spiritual life (Lincoln & Mamiya, 1992). As such, youth-related programs such as choir, Sunday school, and visual arts and performances may be programs that also play a protective role in the ORG religious life of 12 to 16 year olds. The ORG religiosity indicators in our study may decrease in their protective influence over time as they and other ORG religious activities become less relevant for older AA adolescents.

With respect to N-ORG religiosity, members in the high N-ORG religiosity class endorsed lower depressive symptoms at each of the observed time points, except at age 18, after controlling for SLEs. Much like ORG religiosity, after controlling for SLEs, differences in depressive symptoms were the largest at the age of 12 and diminished over time between the two classes of N-ORG religiosity. This trend was observed due to the positive growth of depressive symptoms in the high N-ORG religiosity class, and the negative growth of depressive symptoms in the low N-ORG religiosity class.

The protective nature of N-ORG religiosity from ages 12 to 17 can be understood in a number of ways. First, according to Mattis and colleagues (2004), N-ORG religious acts such as prayer or scripture reading can draw attention to the omnipotent, omnipresent, and omnibenevolent characteristics of the divine. In turn, religious adolescents may conceive of prayer as reframing stressful situations in that the divine can change outcomes (Humphrey et al., 2008). Second, religious valuation can also exert a protective influence in the relation between SLEs and depressive symptoms for AA adolescents. That is, AA adolescents who perceive

religion to be important may be positively responsive to religious norms, values, and attitudes that run orthogonal to thoughts (e.g., hopelessness) and behaviors (e.g., lethargy) that encourage or resemble symptoms of depression (Jagers et al., 1998). Thus, prayer and the perceived importance of religion are non-organized religiosity indicators that can shield AA adolescents against the effect of SLEs on depressive symptoms.

As observed in ORG religiosity, the protective role of N-ORG religiosity gradually diminished over time. Although plausible explanations for this effect are sparse, scholars have posited that older adolescents (ages 17 to 18) are exposed to a broader cultural context as they start employment, obtain a driver's license, and enroll in higher education (Arnett, 2003). As AA adolescents navigate this broader context, some scholars have noted that these adolescents are at increased risk to racism-related stressors such as encountering discriminatory hiring practices and exclusion from college training programs despite meeting program requirements (Hurd, Varner, Caldwell, & Zimmerman; 2014). The burden of racism-related stress has also been shown to confer developmental challenges in these adolescents and young adults as they grapple with developing a positive self-concept in a society that devalues AAs due to their racial identity (Graham, West, & Roemer, 2014). These race-related experiences during late adolescence and young adulthood, in turn, have been linked to increases in substance use and other risky behaviors (e.g., suicidal attempts) during adolescence to manage the race-related stressors AA adolescents face during their transition into adulthood (Doherty, Green, Reisinger, & Ensminger, 2008). As a consequence, the perceived importance of prayer may not have the same protective effects when religious adolescents engage in behaviors (e.g., substance use) that run contrary to norms and values associated with their system of faith. Thus, the transition from adolescence into

young adulthood can be tumultuous for some AAs which, in turn, can lead to the emergence of risky behaviors that reduce the protective influence of religiosity.

Aim 3: Gender Differences in the Protective Role of High ORG and N-ORG Religiosity

The third aim of the study sought to examine gender variations in the protective role of ORG and N-ORG religiosity. First, it should be mentioned that females endorsed higher levels of depressive symptoms than males across the observed time points regardless of class membership. Although it might appear that males are benefitting more than females, many studies of depression have substantiated the notion that adolescent females are more depressed than adolescent males (Oquendo et al., 2014). As such, differences in depressive symptoms between low and high religiosity will be the key focus for males and females.

For ORG religiosity, after controlling for SLEs, males in the high ORG religiosity class reported lower levels of depressive symptoms than males in the low ORG religiosity class until the age of 17. It should be noted, however, that the protective influence of being in the high ORG religiosity class diminished over time. To understand this finding, studies posit that older AA adolescent males are less likely to attend religious services and youth activities in relation to their younger counterparts for several reasons (Mattis & Mattis, 2011). First, scholars have purported that older AA adolescents are more likely to initiate risky behaviors (e.g., substance use) that are denounced by members of religious communities (Gibbons et al., 2012). In turn, it is plausible that religious institutions withhold social, instrumental, and emotional support from these males. Second, older AA adolescent males are more likely to leave their homes and religious institutions to start employment (Sinha, Cnaan, & Gelles, 2007). Therefore, these males may begin to frequent non-religious spaces and, in turn, identify non-religious methods of coping with stress.

With respect to AA adolescent females, after controlling for SLEs, members in high ORG religiosity class endorsed lower depressive symptoms over time than members in the low ORG religiosity class. Further, the protective influence of being in the high ORG religiosity class increased over time. This finding is consistent with qualitative studies that suggest that religious teachings and messages from AA religious institutions are, more often than not, geared to address the spiritual and psychosocial needs that are more pertinent to AA adolescent females (e.g., coping with sexism; Mattis et al., 2001). In addition, due to the preponderance of female congregants in AA religious institutions, youth and religious programs emphasize greater support for female congregants (e.g., inner healing). Thus, as older AA adolescent males are more likely to leave AA religious institutions, these institutions may naturally offer female congregants with greater opportunities for instrumental, spiritual, and social support.

For N-ORG religiosity, after taking into account the effect of SLEs, males in the high N-ORG religiosity class reported lower levels of depressive symptoms than males in the low ORG religiosity class until the age of 16. However, much like ORG religiosity, the protective influence of falling into the high N-ORG religiosity class diminished over time and, after the age of 16, was no longer protective. Although research in N-ORG religiosity is limited, a few scholars have noted that older AA adolescent males possess an internal locus of control when it comes to their education, career, and in negotiating with race-related challenges. For example, in a qualitative study by Riggins and colleagues (2008), when an older AA adolescent male was asked about the importance of God in his academic success, the student responded "…the only thing keeping me in school is I don't want to go to jail and I don't want to be dead" (p. 80). To the contrary, Humphrey and colleagues (2008) have suggested that young religious adolescent males and females endorse higher scores of religious valuation and are utilizing prayer to make

requests for themselves or on behalf of others. Thus, it may be that as AA males span adolescence, they rely more on an internal locus of control than on prayer and other expressions of N-ORG religiosity.

For females, after taking into account the effects of SLEs, membership in the high N-ORG religiosity class endorsed less depressive symptoms than members in their counterpart class over time. That is, a notable contrast in depressive symptoms was observed for AA adolescent females falling into the high and low N-ORG religiosity classes. This finding is in step with literature that accentuates the protective influence of N-ORG religiosity in AA adolescent females (Mattis et al., 2004; Taylor et al., 1999). In particular, Mattis (2002) catalogued the various ways by which AA adult females use private acts of devotion (e.g. prayer, religious valuations) to negotiate stress: (1) accept reality, (2) turn things over to a higher power, (3) identifying purpose and destiny, and (4) achieving growth. In turn, it is reasonable to assert that these AA adolescent females are socialized by the AA adult females to negotiate stress using N-ORG religious practices and beliefs.

Limitations and Future Directions

Despite the interesting findings, this study consists of several noteworthy limitations. First, although the study endeavored to generalize the distinct developmental patterns and the protective nature of religiosity by gender, the study findings did not take into account parental educational attainment, religious affiliation, racial composition of neighborhood, and other demographic indicators that can influence religious development and coping (Taylor et al., 2004). For instance, in addition to the gendered nature of religiosity, studies have found that low income AA adults were more likely to attend service and perceive the importance of religion than higher income AA adults (Taylor et al., 1999). Although this study focused on AA adults,

the degree of religious involvement in parents and adult caregivers powerfully predicts religious involvement in adolescents (Boyatzis & Janicki, 2003). As such, there is a dire need for studies to map distinct developmental patterns of religiosity and examine the protective nature of religiosity across different socio-demographic correlates.

Second, the results in the present study may not generalize to a predominantly non-Christian sample. As indicated in Table 2, approximately 77% of the sample affiliated into denominations that falls within Christianity. Study findings, however, might vary if the sample were predominantly Muslim. In this hypothetical scenario, the distinct growth patterns of non-organizational religiosity might vary for Muslim adolescents in relation to their Christian counterparts as many observe the Salat – a prayer that must occur five times a day for Muslim believers to remember and communicate with Allah (Sirin & Balsano, 2007). That is, non-organizational indicators of religious involvement might not gradually decline for Muslim youths as they subscribe to a structured prayer regiment. Additionally, while most Christian traditions encourage their followers to have a dialogue with the divine during prayer, Islamic traditions encourage this dialogue in addition to a continuous repetition of verses from the Quran. For these reasons, even though Muslim and Christian AA adolescents engage in prayer, behavioral differences in the method of prayer may dissimilarly inform how AA adolescents cope with stressful life events (Al-Krenawi & Graham, 2000). Thus, future investigations should explore the salient components of RI for AA adolescents in non-Christian religious communities and examine how these components inform their psychological well-being.

Third, although the research findings suggest that religiosity offers protection against depressive symptoms in the context of SLEs, it is also plausible that AA adolescents more prone to depressive symptoms seek comfort and peace from ORG and N-ORG religiosity (Pearce &

Denton, 2011). That is, as religious practices function as a coping behavior (e.g. social support from congregation), experiencing the psychological consequences of SLEs may drive adolescents towards ORG and N-ORG religious involvement. Accordingly, in a mixed methods study, a subset of youth indicated that challenging life events (e.g., death of a loved one) reaffirmed and strengthened their religious faith as they relied on the divine for guidance and direction (Pearce & Denton, 2011). Thus, there is a dire need for research to comprehensively explore whether religiosity protects adolescents against the deleterious impact of stress, or whether adolescents burdened by SLEs begin to appreciate and benefit from religious practices and values.

Fourth, the religiosity measure used in the present study deserves attention for two reasons. First, with respect to the subtypes of religiosity, a number of studies have identified more than two subtypes of religiosity with larger scales of religiosity (Allport, 1958; Himmelfarb, 1975; Lenski, 1961; Levin et al., 1995). As such, increasing indicators of religiosity may reveal other components of religiosity that are salient in the religious lives of AA adolescents. Second, from an analytic perspective, a just-identified factor structure (2 items per factor) is unable to diagnose and treat issues related to model misspecification (Bollen & Curran, 2006). Thus, incorporating multidimensional measures into grant proposals and future research may provide a more holistic perspective on the religious lives of AA adolescents and allow researchers to enhance the psychometric properties of the scale.

The fifth limitation to the present study was measuring stressful life events as a time invariant construct. Prior studies of stress have noted that stressful life events ebb and flow throughout adolescence and that certain trajectories of stress (e.g., gradual incline or decline) can effect depressive symptom in adolescents differently (Adkins et al., 2009). For example, in a

study by Adkins and colleagues (2009) higher stress trajectories were associated with higher levels of depressive symptoms during adolescence. Further, another limitation to the study is that stress has been conceptualized as stressful life events. Although a cumulative exposure to acute stressors can have adverse effects on psychological well-being, prior studies indicate that other stress exposures such as chronic stressors (e.g., racial discrimination, chronic illness) are important components in understanding the link between stress and depressive symptoms (Mclean & Link, 1994). As such, an improvement in understanding the potential value of stress as it relates to depressive symptoms is to assess stress as a time varying construct and to disaggregate the effect of stress by examining distinct subtypes of stressors – such as, acute versus chronic stress.

Clinical Implications

Although counseling in a religious context is increasing, religiosity remains vastly unexplored in relation to other therapeutic concerns in mental health settings for AA adolescents (Constantine, Lewis, Conner, & Sanchez, 2000). The present study findings offer important insights into the clinical practice with religious AA adolescents. First, counselors should identify the components of religiosity in AA adolescent clients. That is, if AA adolescent clients mention the importance of religious involvement in negotiating stress, counselors should acknowledge that religious life can entail different practices and beliefs (e.g., youth activities, prayer) that uniquely shape the well-being. For example, in terms of organizational religiosity, AA religious institutions may allow AA adolescents an opportunity to develop and showcase their methods such as spoken word, singing, music, rhythmic dance, and public scripture reading. Therefore, it is prudent that counselors understand the totality of their client's religious life as they conceptualize the role of religiosity in the client's well-being.

In addition to cataloguing the salient components of religious life in AA adolescents, it may be worthwhile for clinicians to understand the factors that support or thwart religious commitment over time. That is, as adolescence is a period marked by identity development across multiple domains simultaneously (e.g., gender, racial, sexual), it may be essential for clinicians to understand how AA adolescents are impacted by and negotiate the challenges that emerge from identities that conflict. For example, religious AA adolescents who also identify as lesbian, gay, transgender, or questioning (LGBTQ) may complicate their religious life as non-heterosexual relations are denounced in religious communities. Thus, understanding the developmental patterns of religious involvement can provide insights into how the psychological well-being of AA adolescents is influenced by the challenges and contradictions that emerge at the intersection of the evolving identities.

The findings from the present study indicate that organizational and non-organizational forms of religiosity are protective for AA adolescent females and for younger AA adolescent males burdened by stress. As such, for these clients, clinicians may consider integrating religion into therapeutic techniques - such as cognitive behavioral therapy (CBT) - to bolster the effects of treatment. For instance, work by Boyd-Franklin and Lockwood (2009) emphasized a number of clinical techniques for integrating religious components in psychotherapy – CBT, in particular - when working with religious AA adolescents. Specifically, they recommended that counselors integrating religion in the CBT framework utilize religious beliefs and prayer for restructuring maladaptive thought patterns (e.g., "the divine will give me strength to get through this), constructing self-statements to encourage more adaptive thoughts (e.g., "the divine is my partner in stressful times"), using organizational religious activities as forms of behavioral activation (e.g., "community service), and committing to local faith communities with the intent of

receiving social support (e.g., emotional validation). These modifications to CBT may mitigate the psychological consequence of mundane and extraordinary stress for African American youth.

Lastly, the study findings also indicated that the protective influence of religiosity for older AA adolescent males (16 – 18 years) was marginal or non-existent. However, if an older AA adolescent male client discloses information about their religious affiliation and commitment, clinicians should still explore whether these adolescent males integrate religion into their repertoire of coping strategies. That is, due to the lack of differentiation between religion and secularism in the AA cultural context, AA adolescents may be exposed to religious content in secular contexts including secular music with lyrics that express religious ideas. In turn, it is plausible that older AA adolescent males who also identify as religious, cope with stressful life events using religious imagery, messages and ideas as depicted in secular contexts. Thus, there is potential value in exploring how religiosity might play a role in informing the coping methods of religious AA adolescent males over 16 years old.

Conclusion

This study identified different subtypes of religiosity – organizational and non-organizational religiosity – in pre-existing items of religiosity. Further, unique developmental patterns were identified within organizational and non-organizational religiosity suggesting that African American adolescent develop differently with respect to each subtype of religiosity. Specifically, the majority of African American adolescents were classified into developmental patterns represented by high organizational and non-organizational religiosity over time, whereas the remaining African American adolescents classified into the developmental patterns that represented low organizational and non-organizational religiosity. Lastly, while organizational and non-organizational religiosity offered protection to African American adolescents against the

effect of stressful life events on depressive symptoms over time, this protective influence diminished over time for African American adolescent males. For this reason, the results underscore the need for future research to examine the underlying mechanisms that account for the protective properties of religiosity in the context of stress for African American male and female adolescents. While the study findings highlight the different subtypes and developmental patterns of religiosity in African American adolescents, the study findings also suggest the potential value of incorporating or invoking religious involvement in mental health service delivery. This line of inquiry has the potential to inform research and counseling practice on how African American adolescents use cultural elements – like religiosity – to successfully overcome and negotiate stress.

Table 1

Participant Characteristics (n = 1,595)

	Wave 1 (1994-1995)	Wave 2 (1995-1996)	Wave 3 (2001-2002)
	N% or *M* (*SD*)	N% or *M* (*SD*)	N% or *M* (*SD*)
Age	14.87 (1.75)	16.08 (1.65)	21.83 (1.85)
Female	53.30%	--	--
Household Income	37,160 (4,750)	--	--
Mother's Education	5.64 (2.39)	--	--
Depressive Symptoms (0 - 3)	0.76 (0.43)	0.78 (0.40)	0.70 (0.40)
Stressful Life Events (0 - 37)	13.61 (6.81)	--	--
Service Attendance (0-3)	2.31 (0.93)	2.28 (0.94)	1.56 (1.04)
Prayer (0-4)	2.94 (1.45)	3.33 (1.05)	2.71 (1.21)
Religious Importance (0-3)	2.66 (0.53)	2.63 (0.57)	1.84 (0.77)
Youth Activities (0 - 3)	1.52 (1.24)	1.51 (1.23)	0.63 (0.93)

Table 2

Sample size and percentage in religious and denominational affiliation

Religious or Denominational Affiliations	**n (%)**
1. African Methodist Episcopal	73 (4.6%)
2. Baptist	751 (47.1%)
3. Pentecostal	68 (4.3%)
4. Methodist	118 (7.4%)
5. Protestant	217 (13.6%)
6. Catholic	81 (5.1%)
7. Jehova's Witness	39 (2.4%)
8. Islam	13 (0.02%)
9. None	200 (12.5%)
10. Missing	35 (2.2%)

Table 3

Means and Standard Deviations of Study Variables by Age

	12 (*n*=145)	13 (*n*=364)	14 (*n*=491)	15 (*n*=570)	16 (*n*=579)	17 (*n*=566)	18 (*n*=525)
Depressive Symptoms	0.54 (0.40)	0.61 (0.46)	0.64 (0.47)	0.67 (0.47)	0.70 (0.50)	0.68 (0.45)	0.69 (0.51)
Stressful Life Events	5.02 (2.78)	4.90 (2.83)	5.13 (2.76)	5.34 (3.01)	5.70 (3.19)	5.34 (2.91)	3.55 (2.36)
Service Attendance	2.47 (0.90)	2.37 (0.91)	2.38 (0.88)	2.39 (0.89)	2.25 (0.96)	2.20 (0.94)	1.86 (1.06)
Youth Activities	1.71 (1.26)	1.60 (1.27)	1.73 (1.18)	1.61 (1.23)	1.47 (1.23)	1.34 (1.19)	0.98 (1.13)
Prayer	3.41 (0.99)	3.42 (1.02)	3.36 (0.97)	3.32 (1.07)	3.25 (1.12)	3.34 (1.04)	3.15 (1.23)
Religious Importance	2.67 (1.59)	2.66 (0.53)	2.69 (0.52)	2.65 (0.59)	2.62 (0.59)	2.61 (0.57)	2.34 (0.74)

Table 4

Factor Structure of Religiosity and Measurement Invariance

Organizational Religiosity (ORG)	Non-Organizational Religiosity (N-ORG)
Service Attendance = **.78 [.02]** Youth Activties = **.68 [.02]**	Prayer = **.61 [.02]** Religious Importance = **.65 [.02]**
	Model Fit Indices
Chi-Square Test of Model Fit	$\chi_2(1) = 1.77, p = .19$
Root Mean Square of Error Approximation	.02
Tucker Lewis Index/Confirmatory Factor Index	.99 / .98
	Longitudinal Factorial Invariance
	Configural Factorial Invariance
Chi-Square Test of Model Fit	$\chi^2(7) = 6.01, p = .54$
Root Mean Square of Error Approximation	.01
Tucker Lewis Index/Confirmatory Factor Index	.99 / .99
	Weak Factorial Invariance
Chi-Square Test of Model Fit	$\chi^2(19) = 24.85, p = .17$
Root Mean Square of Error Approximation	.03
Tucker Lewis Index/Confirmatory Factor Index	.99 / .99
	Strong Factorial Invariance
Chi-Square Test of Model Fit	$\chi_2(31) = 55.05, p = .01$
Root Mean Square of Error Approximation	.04
Tucker Lewis Index/Confirmatory Factor Index	.99 / .98
	Measurement Invariance Across Religions and Denominations
	Configural Factorial Invariance
Chi-Square Test of Model Fit	$\chi_2(9) = 20.25, p = .02$
Root Mean Square of Error Approximation	.04
Tucker Lewis Index/Confirmatory Factor Index	.99 / .98
	Weak Factorial Invariance
Chi-Square Test of Model Fit	$\chi_2(25) = 43.99, p = .01$
Root Mean Square of Error Approximation	.04
Tucker Lewis Index/Confirmatory Factor Index	.99 / .98
	Strong Factorial Invariance
Chi-Square Test of Model Fit	$\chi_2(41) = 75.66, p = .00$
Root Mean Square of Error Approximation	.05
Tucker Lewis Index/Confirmatory Factor Index	.98 / .98

Table 5

Growth Mixture Model Goodness of Fit Indices and Intercepts and Slopes for ORG Religiosity

Class	AIC	aBIC	Entropy	VLMR LRT	Bootstrap LRT	Class 1	Class 2	Class 3
1	6476.58	6502.02	--	--	--	1476	--	--
2	6344.34	6376.14	.70	.00	.00	970	506	--
3	6350.04	6388.21	.62	.83	1.00	1	497	978

	Intercept	Slope
Latent Class Trajectory 1	2.69 (p = .00)	-0.11 (p = .00)
Latent Class Trajectory 2	1.15 (p= .00)	-0.09 (p = .03)

Table 6

Growth Mixture Model Goodness of Fit Indices and Intercepts and Slopes for N-ORG Religiosity

Class	AIC	aBIC	Entropy	VLMR LRT	Bootstrap LRT	Class 1	Class 2	Class 3
1	4956.67	4982.11	--	--	--	1476	--	--
2	4551.08	4582.89	.87	.00	.00	208	1268	--
3	4509.37	4547.54	.88	.06	.01	21	1183	272

	Intercept	Slope
Latent Class Trajectory 1	2.13 (p = .00)	-0.12 (p = .00)
Latent Class Trajectory 2	3.23 (p = .00)	-0.02 (p = .01)

Table 7

Factor Structure of Depressive Symptoms and Measurement Invariance

Depressive Symptom Items (DEP)	**Factor Loading [Standard Error]**
1. I was bothered by things that usually don't bother me	**.55 [.01]**
2. I felt that I could not shake off the blues even with help from my family and friends	**.68 [.02]**
3. I felt I was just as good as other*	**.48 [.02]**
4. I had trouble keeping my mind on what I was doing	**.51 [.01]**
5. I felt depressed	**.81 [.01]**
6. I felt that everything I did was an effort	**.45 [.01]**
7. I enjoy life*	**.43 [.02]**
8. I felt sad	**.72 [.01]**
9. I felt that people disliked me	**.48 [.01]**
	Model Fit Indices
Chi-Square Test of Model Fit	$\chi_2(27) = 461.84$, $p = .00$
Root Mean Square of Error Approximation	.06
Tucker Lewis Index/Confirmatory Factor Index	.94 / .93
	Longitudinal Factorial Invariance Tests
	Model Fit Indices - Configural Factorial Invariance
Chi-Square Test of Model Fit	$\chi^2(351) = 871.72$, $p = .00$
Root Mean Square of Error Approximation	.06
Tucker Lewis Index/Confirmatory Factor Index	.92 / .94
	Model Fit Indices - Weak Factorial Invariance
Chi-Square Test of Model Fit	$\chi^2(447) = 1086.44$, $p = .00$
Root Mean Square of Error Approximation	.07
Tucker Lewis Index/Confirmatory Factor Index	.92 / .92
	Model Fit Indices - Strong Factorial Invariance
Chi-Square Test of Model Fit	$\chi_2(543) = 1247.96$, $p = .00$
Root Mean Square of Error Approximation	.07
Tucker Lewis Index/Confirmatory Factor Index	.99 / .98

Note. * = item was reverse coded.

Table 8

Growth of Depressive Symptoms by Class Membership

	Intercept of DEP	**Slope of DEP**	**Var (Intercept)**	**Var (Slope)**
Low ORG Religiosity Class	0.63 (*p* = .00)	0.01 (*p* = .07)	0.15 (p = .00)	0.01 (p = .21)
High ORG Religiosity Class	0.59 (*p* = .00)	0.02 (*p* = .01)	0.12 (p = .00)	0.01 (p = .65)
Low N-ORG Religiosity Class	0.67 (*p* = .00)	0.00 (*p* = .91)	0.13 (p = .00)	0.01 (p = .17)
High N-ORG Religosity Class	0.61 (*p* = .00)	0.01 (*p* = .33)	0.14 (p = .00)	0.00 (p = .26)

Table 9

Stressful Life Events on the Growth of Depressive Symptoms by Latent Trajectory Class

	Intercept on SLE	**Slope on SLE**
Latent Class Trajectories		
Low ORG Religiosity Class	.09 (p = .00)	-.02 (ns)
High ORG Religiosity Class	.06 (p = .00)	.00 (*ns*)
Low N-ORG Religiosity Class	.11 (p = .00)	-.02 (p = .05)
High N-ORG Religiosity Class	.07 (p = .00)	.00 (*ns*)

Table 10

Growth of Depressive Symptom by Class Membership X Gender

	Intercept of DEP	**Slope of DEP**
Low ORG Religiosity for Males	0.63 (p = .00)	-0.01 (p = .61)
Low ORG Religosity for Females	0.68 (p = .00)	0.02 (p = .05)
High ORG Religosity for Males	0.49 (p = .00)	0.02 (p = .03)
High ORG Religiosity for Females	0.67 (p = .00)	0.01 (p = .34)
Low N-ORG Religiosity for Males	0.64 (p = .00)	-0.01 (p = .63)
Low N-ORG Religosity for Females	0.82 (p = .00)	0.01 (p = .77)
High N-ORG Religosity for Males	0.53 (p = .00)	0.02 (p = .04)
High N-ORG Religiosity for Females	0.68 (p = .00)	0.01 (p = .28)

Table 11

Stressful Life Events on Depressive Symptoms by Class Membership X Gender

	Intercept on SLE	**Slope on SLE**
Low ORG Religiosity for Males	0.09 (p = .00)	-0.01 (p = .02)
Low ORG Religosity for Females	0.09 (p = .00)	-0.01 (p = .15)
High ORG Religosity for Males	0.06 (p = .00)	0.00 (p = .99)
High ORG Religiosity for Females	0.08 (p = .00)	0.00 (p = .92)
Low N-ORG Religiosity for Males	0.07 (p = .00)	-0.01 (p = .04)
Low N-ORG Religosity for Females	0.19 (p = .00)	-0.03 (p = .03)
High N-ORG Religosity for Males	0.06 (p = .00)	0.00 (p = .54)
High N-ORG Religiosity for Females	0.08 (p = .00)	0.00 (p = .82)

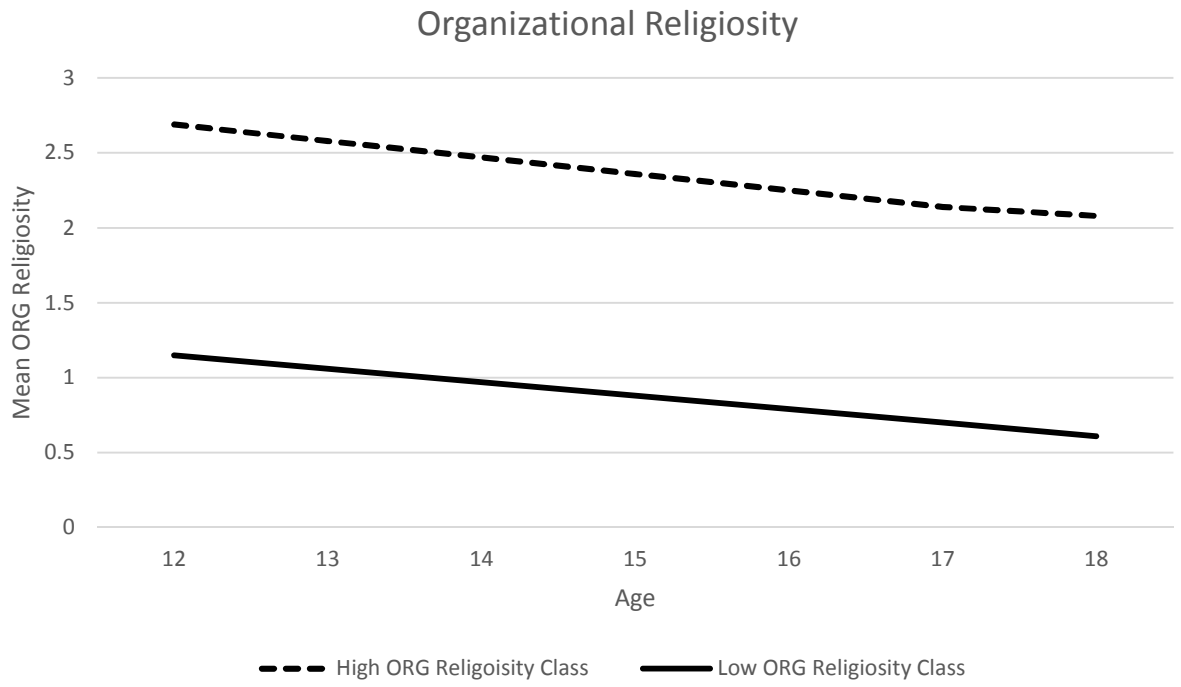

Figure 1. The identified latent trajectory classes of organizational religiosity. The dotted line represents the High Organizational Religiosity Class, whereas the filled line represents the Low Organizational Religiosity Class.

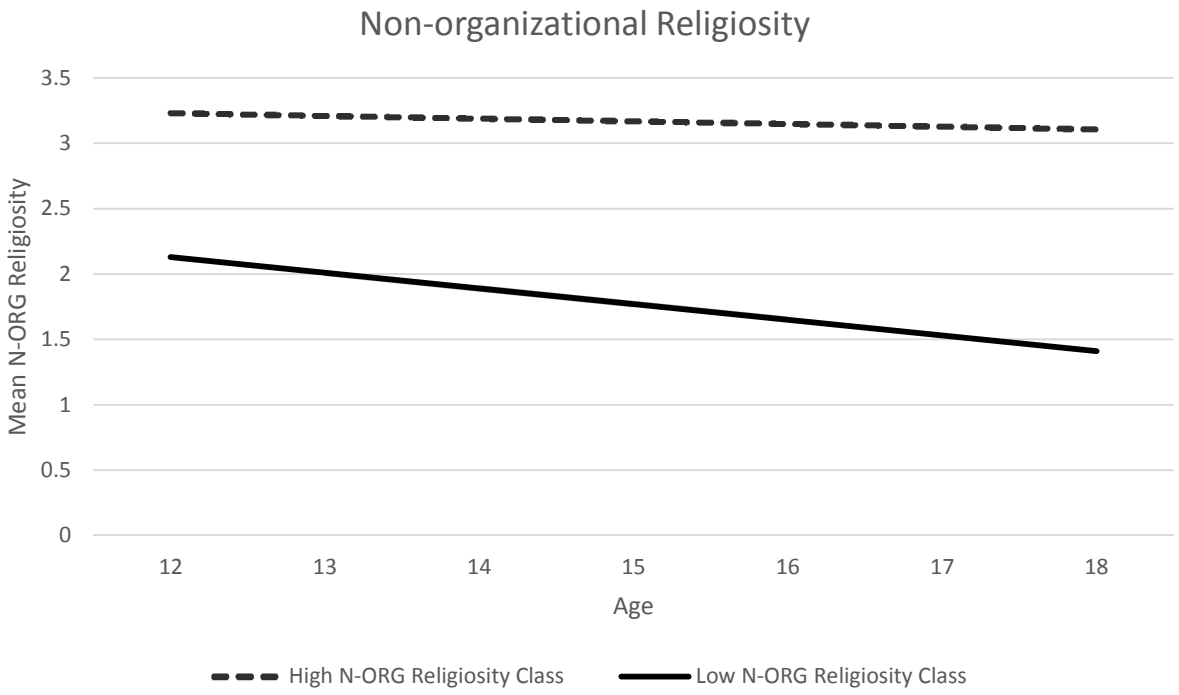

Figure 2. The identified latent trajectory classes of non-organizational religiosity. The dotted line represents the High Non-organizational Religiosity Class, whereas the filled line represents the Low Non-organizational Religiosity Class.

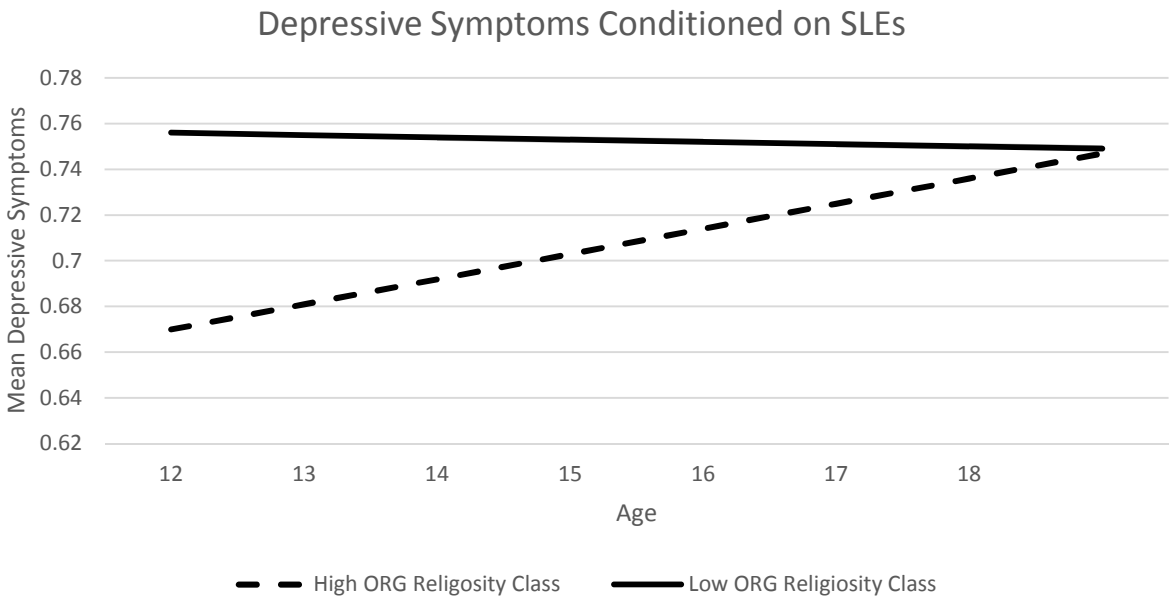

Figure 3. The trajectories of depressive symptoms conditioned on stressful life events across the latent trajectory classes of organizational religiosity.

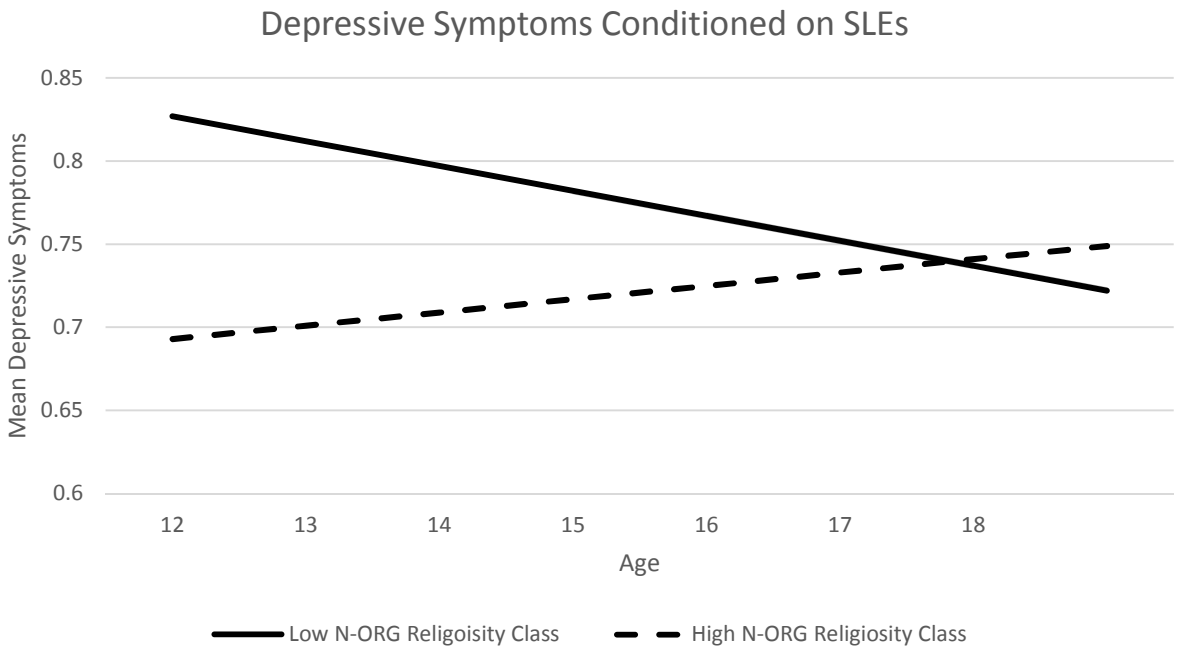

Figure 4. The trajectories of depressive symptoms conditioned on stressful life events across the latent trajectory classes of non-organizational religiosity.

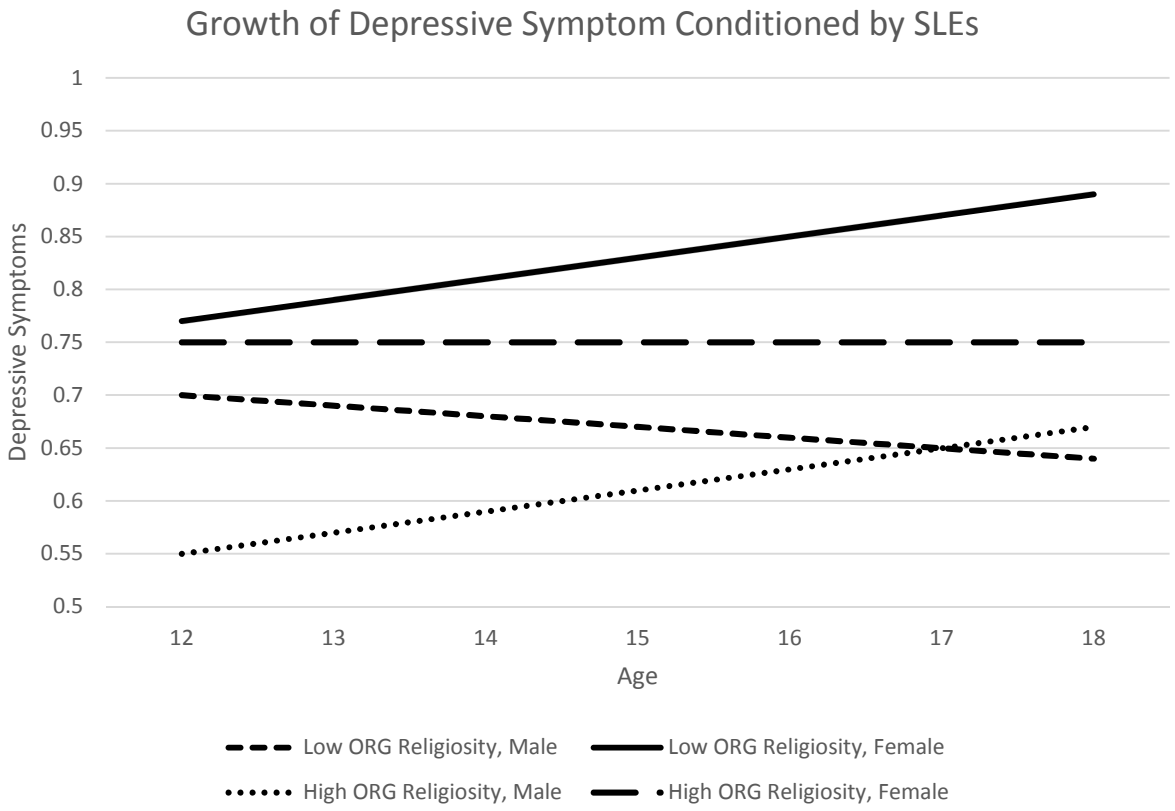

Figure 5. Depressive trajectories conditioned on stressful life events across the latent class trajectories of organizational religiosity and gender.

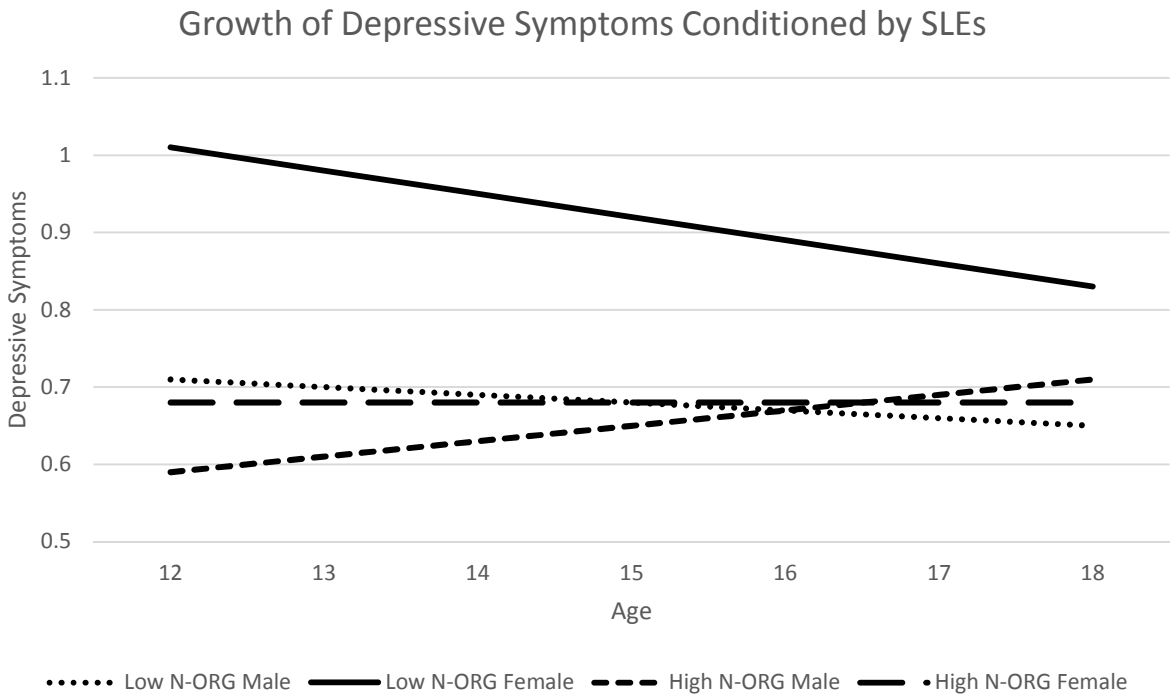

Figure 6. Depressive trajectories conditioned on stressful life events across the latent class trajectories of non-organizational religiosity and gender.

APPENDIX 1: ITEMS IN THE STRESSFUL LIFE EVENTS SCALE

Stressful Life Events (Wave I)
1. Death of biological mother
2. Death of biological father
3. Attempted suicide
4. Friend attempted suicide
5. Friend committed suicide
6. Relative attempted suicide
7. Relative committed suicide
8. Witnessed someone getting stabbed or shot
9. Someone pulled a knife or gun on you
10. Someone shot you
11. Someone stabbed you
12. You were jumped
13. Injured in a physical fight and needed medical treatment
14. Had sex for money
15. Contracted a sexually transmitted disease
16. Got expelled
17. Out of school suspension
18. Failed a course
19. Physically abused by caregiver
20. Sexually abused by caregiver
21. Social services removed child from household
22. Ran away from home
23. Was injured and admitted to the hospital
24. Could not afford medical treatment when needed
25. Was arrested
26. Was convicted of a crime
27. Was sentenced to a juvenile detention center

APPENDIX 2: ITEMS IN THE DEPRESSIVE SYMPTOM SCALE

Depressive Symptoms (Wave I, II, & III)
1. I was bothered by things that usually don't bother me
2. I felt that I could not shake off the blues even with help from my family and friends
3. I felt I was just as good as other people*
4. I had trouble keeping my mind on what I was doing
5. I felt depressed
6. I felt that everything I did was an effort
7. I enjoy life*
8. I felt sad
9. I felt that people disliked me

Note. * = reverse coded.

APPENDIX 3: ITEMS IN THE RELIGIOSITY SCALE

Religiosity Scale (Wave I, II, & III)
1. In the past 12 months, how often did you attend religious services?
2. How important is religion to you?
3. How often do you pray?
4. Many churches, synagogues, and other places of worship have special activities for teenagers – such as youth groups, Bible classes, or choir. In the past 12 months, how often did you attend such youth activities?

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